

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
TYLER DIVISION

ERICSSON, INC., ET AL )  
-vs- ) DOCKET NO. 6:10cv473  
Tyler, Texas  
12:53 p.m.  
D-LINK CORPORATION, ET AL ) June 4, 2013

8                   TRANSCRIPT OF TRIAL  
9                   AFTERNOON SESSION  
10          BEFORE THE HONORABLE LEONARD DAVIS,  
11          UNITED STATES CHIEF DISTRICT JUDGE, AND A JURY

11

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25       Proceedings taken by Machine Stenotype; transcript was  
      produced by a Computer.

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1 P R O C E E D I N G S

2 (Jury out.)

3 COURT SECURITY OFFICER: All rise.

4 THE COURT: All right. You may bring the  
5 jury in.

6 (Jury in.)

7 THE COURT: Please be seated.

8 All right, Mr. Cawley.

9 MR. CAWLEY: Thank you, Your Honor.

10 CHRISTINA PETERSSON, PLAINTIFFS' WITNESS,

11 PREVIOUSLY SWORN

12 DIRECT EXAMINATION (CONTINUED)

13 BY MR. CAWLEY:

14 Q. Ms. Petersson, before the lunch break, you had  
15 just told us about a number of license agreements that  
16 Ericsson entered into for its Wi-Fi patents.

17 Were the licenses that you just told us about,  
18 for companies that sold end products to users?

19 A. Yes, they were. They were what we called  
20 ready-to-use devices, which is a device that can  
21 actually be used by a consumer directly when it's sold.

22 Q. And were the amounts that these companies paid  
23 as royalties based, at least in part, on the prices of  
24 the products that they sold to the end users?

25 A. Yes, that's correct.

1 Q. Were any of the companies that you told us  
2 about chip makers?

3 A. No, they were not.

4 Q. Has Ericsson licensed any chip makers to its  
5 Wi-Fi patents?

6 A. No. It has happened that we have -- we have  
7 license agreement from the '90s, one agreement from the  
8 beginning of 2000, as well.

9 Q. Okay.

10 A. But they would usually cover our entire  
11 portfolio, so it wouldn't be Wi-Fi specific, no.

12 Q. Okay. Since 2003, when -- when you told us  
13 you -- Ericsson began this licensing effort, has it  
14 licensed any chip makers to its Wi-Fi patents?

15 A. No, we have not.

16 Q. Why not?

17 A. Because if you license the chipset  
18 manufacturer, you cannot use the same patent against its  
19 customers. So you can only license once in the value  
20 chain, is the way we call it.

21 Q. Uh-huh.

22 A. So you have to elect to either license on the  
23 chipset level --

24 Q. Uh-huh.

25 A. -- or you license on the ready-to-use device

1 level. And the reason why we do it on the ready-to-use  
2 device product is that that's where you actually see the  
3 use of the technology.

4 Q. So is -- in your experience is a computer chip  
5 that we saw yesterday very useful to most consumers?

6 A. No, at least not to me.

7 Q. Okay. Now, let's make sure this -- this is an  
8 important concept, so I want to make sure we understand.

9 If, in this case, Ericsson were to have  
10 licensed Intel that makes Wi-Fi chips, could Ericsson  
11 also ask for a license from Intel's customers who buy  
12 Intel chips and put it into their products?

13 A. No, we could not. Provided that our invention  
14 is used by the chipset, we say that the rights are  
15 exhausted when the chips are sold. So that you can no  
16 longer sign a cross-license in between us and the  
17 chipset manufacturers' customer which is in standard  
18 environments the -- the usual proceeding is that you  
19 sign cross-licenses that covers both companies' patent  
20 portfolios.

21 Q. Okay. Thank you.

22 And let's reduce this down to dollars and  
23 cents -- mostly from Intel's perspective, cents, I  
24 think, because I have a feeling that later on in this  
25 trial we're going to hear someone hired by Intel say

1 that the reasonable royalty for the chip should be 1 or  
2 2 cents?

3 A. Yes.

4 Q. Okay. Now, if that happened, if Ericsson  
5 entered into an agreement with Intel to license them to  
6 use Ericsson's Wi-Fi patents for 1 cent -- 1 penny, how  
7 much would Ericsson be able to recover from the other  
8 Defendants that buy Intel's chip and put it in their  
9 products?

10 A. The -- the most likely answer is zero.

11 Q. Zero?

12 A. Yes.

13 Q. Okay. And why has Ericsson decided that it  
14 would rather license the end users than the chip makers?

15 A. First -- first of all, it's because we enter  
16 into cross-licenses. We are ourselves a maker of  
17 ready-to-use products, so we enter into cross-license  
18 agreements with those type of -- of companies. And  
19 also, because we feel that we are entitled to the value  
20 of the technology, and the value of the technology you  
21 see in the end product.

22 Q. Okay. Thank you, ma'am.

23 Now, let's talk a little bit more about  
24 Ericsson's relationship with the Defendants in this  
25 case.

1           Did Ericsson contact each of the Defendants in  
2 this case about taking a license to Ericsson's Wi-Fi  
3 patents?

4           A.    Yes, we did.

5                   MR. CAWLEY: Now, Your Honor, at this  
6 time, I must ask the Court's permission to read a boring  
7 document into the record that has been agreed to.

8                   THE COURT: All right. You may proceed.

9                   MR. CAWLEY: Thank you, Your Honor.

10                   This is a stipulation regarding notice  
11 dates, and it's about two pages long.

12                   Plaintiffs Ericsson, Inc. -- and, Your  
13 Honor, could -- could I explain to the jury, or ask the  
14 Court, what a stipulation is?

15                   THE COURT: Yes. Ladies and Gentleman of  
16 the Jury, a stipulation is an agreement entered into  
17 between the parties as to what certain facts in the case  
18 are.

19                   So these facts are not going to be  
20 disputed facts. The parties have gotten together and  
21 agreed to these facts, and it saves time with proof and  
22 that type of thing. And you'll be bound by their  
23 stipulation.

24                   MR. CAWLEY: Thank you, Your Honor.

25                   Plaintiffs Ericsson, Inc. and

1 Telefonaktiebolaget LM Ericsson, collectively the  
2 Plaintiffs, and Defendants, D-Link Systems, Inc.;  
3 NETGEAR, Inc.; Acer, Inc.; Acer America Corporation;  
4 Gateway, Inc.; Dell, Inc.; Toshiba Corporation; Toshiba  
5 America Information Services, Inc.; and Belkin  
6 International; and Intervenor, Intel Corporation,  
7 collectively the Defendants, hereby stipulate to the  
8 following facts:

9               1. The following patents are at issue in  
10 this suit. United States Patent No. 6,330,435, the '435  
11 patent; United States Patent No. 6,424,625, the '625  
12 patent; United States Patent 6,466,568, the '568 patent;  
13 United States Patent No. 6,519,223, the '223 patent; and  
14 the United States Patent No. 6,772,215, the '215 patent.  
15 These patents are collectively known as the  
16 patents-in-suit.

17               Ericsson has asserted that each of the  
18 Defendants infringe the '568, '625, '435, and '215  
19 patents, and that Intel and those Defendants using  
20 Intel-supplied chipsets, infringe the '223 patent.  
21 Defendants deny that they infringe any valid claim of  
22 the patents-in-suit.

23               On March 22nd, 2004, Ericsson identified  
24 the '435 patent and '625 patent to D-Link's parent  
25 company as relevant to earlier versions of the 802.11



1 standards. At that time Ericsson did not make the  
2 infringement allegations that it makes in this case.

3 Ericsson informed D-Link of its  
4 infringement allegations in this case for all of the  
5 patents-in-suit on September 14th, 2010.

6 Ericsson and D-Link discussed Ericsson's  
7 claims, but they could not reach an agreement.

8 On September 21st, 2004, Ericsson  
9 identified the '435 patent, the '625 patent, and the  
10 '568 patent to NETGEAR as relevant to earlier versions  
11 of the 802.11 standards. At that time Ericsson did not  
12 make the infringement allegations that it makes in this  
13 case. Ericsson informed NETGEAR of its infringement  
14 allegations in this case for all of the patents-in-suit  
15 on October 2, 2008.

16 Ericsson and NETGEAR discussed Ericsson's  
17 claims, but they could not reach an agreement.

18 On November 13th, 2009, Ericsson informed  
19 Acer and Gateway of its infringement allegations for all  
20 of the patents-in-suit.

21 Ericsson and Acer and Gateway discussed  
22 Ericsson's claims, but they could not reach an  
23 agreement.

24 On March 21, 2010, Ericsson informed Dell  
25 of its infringement allegations for all of the

1 patents-in-suit.

2 Ericsson and Dell discussed Ericsson's  
3 claims, but they could not reach an agreement.

4 On December 13, 2010, Ericsson informed  
5 Belkin of its infringement allegations for all of the  
6 patents-in-suit.

7 Ericsson and Belkin discussed Ericsson's  
8 claims, but they could not reach an agreement.

9 On November 11, 2009, Ericsson provided  
10 Plaintiffs' Exhibit 71 to Toshiba during a meeting.  
11 Ericsson contends that it provided notice of its  
12 infringement allegations on that date. Toshiba contends  
13 that Plaintiffs' Exhibit 71 did not provide Toshiba  
14 notice of infringement of the patents-in-suit because it  
15 did not communicate to Toshiba a specific charge of  
16 infringement of the patents-in-suit by the accused  
17 products.

18 Instead, Toshiba contends that it  
19 received notice of Ericsson's infringement allegations  
20 on May 21, 2010.

21 Q. (By Mr. Cawley) Now, Ms. Petersson, what is  
22 Ericsson asking for in this case?

23 A. We are asking for fair compensation from the  
24 companies making these ready-to-use devices.

25 Q. And what's your view and Ericsson's view of a

1 fair rate for that compensation?

2 A. That would be 50 cents per unit in relation to  
3 phones. For instance, it would be half a percent capped  
4 at 50 cents, and with a floor at 25 cents.

5 Q. Okay. Let -- let me make sure that I  
6 understand all that.

7 Let's start with the last thing you said.  
8 There's a rate of one-half of 1 percent; is that  
9 correct?

10 A. Yes.

11 Q. And this is the price of the end product,  
12 things that are sold to consumers?

13 A. Yes.

14 Q. One-half of one percent. But there's a  
15 maximum of 50 cents?

16 A. Yes, there is.

17 Q. And also a minimum?

18 A. Yes, of 25 cents.

19 Q. 25 cents minimum?

20 A. Yes.

21 Q. Okay. And that applies to some things you  
22 told us like handsets or other things?

23 A. Yes, it does.

24 Q. Effectively under that formula, what is the  
25 rate for laptop computers?

1           A.     The rate for laptop computer would be 50  
2 cents.

3           Q.     And why is that?

4           A.     Because the laptop is so high-priced that the  
5 half percent would -- would hit the cap of the 50 cents.

6           Q.     Would always be up to the cap of 50 cents?

7           A.     Yes, it would.

8           Q.     What's the rate for routers?

9           A.     The rate for routers is 50 cents.

10          Q.     Also 50 cents. Why is that?

11          A.     In comparison to the laptop, which has a  
12 number of uses, we have concluded that since the router  
13 only has the use for Wi-Fi, they should be paying the  
14 higher rate, the 50 cents.

15          Q.     Okay. So the -- you're telling us the laptop  
16 can be used for writing letters and watching movies and  
17 a whole host of things besides Wi-Fi?

18          A.     Yes.

19          Q.     And that's why 50 cents is a relatively small  
20 price of a thousand-dollar laptop, for example?

21          A.     Yes.

22          Q.     The router, on the other hand, might cost \$50?

23          A.     Yes.

24          Q.     But you're saying that there's -- that the  
25 rate -- Ericsson's rate that it asks for -- for routers

1 is still 50 cents because basically Wi-Fi is all that  
2 the router does?

3 A. Yeah, that's correct.

4 Q. Okay. Now, are these rates that you've just  
5 described to us, part of Ericsson's RAND commitment?

6 A. They are, yes.

7 Q. Does Ericsson believe that they're reasonable?

8 A. We do believe they're reasonable, yes.

9 Q. And does Ericsson at least try hard to enter  
10 into licenses that are non-discriminatory, no special  
11 deals?

12 A. Yes, that's correct.

13 Q. Now, you'd agree with me, wouldn't you, that  
14 these -- some of these license agreements are pretty  
15 complicated?

16 A. They are, yes.

17 Q. And there's a number of parts to them, as  
18 we've heard. There's the Wi-Fi license, but there also  
19 may be licenses to other technology that's not Wi-Fi.

20 A. Correct.

21 Q. And sometimes Ericsson gets a cross-license,  
22 right?

23 A. Yes.

24 Q. It -- it gets a license back from the company  
25 that it's negotiating with?

1 A. Yes.

2 Q. We've even seen some instances where Ericsson  
3 bought some patents in connection with the agreement?

4 A. Yes.

5 Q. So is it -- is it sometimes difficult either  
6 to make sure or even to figure out if the agreement that  
7 you finally negotiate is exactly 50 cents?

8 A. Yes, that's correct.

9 Q. So --

10 A. That would be hard, yes.

11 Q. So since -- since Ericsson has -- has made  
12 this commitment that it will be -- it will not  
13 discriminate, it will not give special deals, and  
14 even -- even though that's hard to accomplish, how does  
15 Ericsson try to accomplish it?

16 A. We try to do that by -- by making it our --  
17 our own internal analysis, of course, to see what in the  
18 end the -- the user will pay.

19 However, we also have to acknowledge that  
20 FRAND or RAND is a range. It will never be an exact  
21 figure, because this is subject to discussions between  
22 us and the licensee, and many times the licensees have  
23 particular requests on how to structure the -- the  
24 royalty clause, and we consider whether that -- we still  
25 find that this is within the same ballpark range.

1 Q. Okay. And Ericsson is -- is willing to  
2 negotiate with the parties to try and find an agreement  
3 that works for everybody?

4 A. Yes, we are.

5 Q. But let's suppose someone comes to Ericsson  
6 and says, well, we want a license to your Wi-Fi patents,  
7 but we want a special deal. We're big, we're a powerful  
8 company, whatever reason, we want a special deal, what  
9 does Ericsson do about that?

10 A. Then we would have concern around our  
11 commitment, because part of RAND is to act  
12 non-discriminatory. And since we have already entered  
13 into agreements with many companies, it -- that would  
14 risk them being discriminated, because they would have a  
15 different position on the market since they would be  
16 paying a higher fee.

17 Q. Right. And so Ericsson is committed it won't  
18 do that?

19 A. Yes.

20 Q. All right. Now, finally, let me ask you just  
21 a couple of questions about Intel.

22 Has -- before this lawsuit began, did -- was  
23 Intel one of the companies that Ericsson contacted about  
24 taking a license to Wi-Fi?

25 A. No, it was not.

1 Q. Why not?

2 A. Because Intel is a component manufacturer, and  
3 we started discussing with Intel's customer.

4 Q. With the customers?

5 A. Yes.

6 Q. With -- with the end users? And let's be  
7 sure. The customers don't -- don't just buy chips --  
8 Wi-Fi chips from Intel, they buy it from many other  
9 companies, as well; is that fair?

10 A. Yes, that's fair. So the customer would be  
11 the laptop manufacturer.

12 Q. Okay. Now, when Ericsson decided, for the  
13 reasons that Mr. Brismark told us about earlier this  
14 morning, that it had to file this suit, did it sue  
15 Intel?

16 A. No, we did not.

17 Q. Why not?

18 A. Because, again, we were not trying to collect  
19 any fee from Intel, but we were aiming at or trying to  
20 discuss with its customer.

21 Q. Okay. Thank you, Ms. Petersson.

22 MR. CAWLEY: Your Honor, I'll pass the  
23 witness.

24 THE COURT: Thank you.

25 Cross-examination.



1 CROSS-EXAMINATION

2 BY MR. DAUCHOT:

3 Q. Ms. Petersson --

4 A. Yes.

5 Q. -- good afternoon.

6 A. Good afternoon.

7 Q. I'm going to give you some documents --

8 A. Yes.

9 Q. -- and here's your binder.

10 MR. DAUCHOT: And here's your binder,  
11 Your Honor.

12 Q. (By Mr. Dauchot) All right. Well, let me  
13 introduce myself first. I'm -- I'm Luke Dauchot.

14 A. Hello.

15 Q. I'm an attorney here, along with the others --  
16 for the Defendants who's going to be speaking here on  
17 behalf of the Defendants.

18 First off, we've met before, right?

19 A. Yes, we have.

20 Q. And that was in Stockholm, Sweden?

21 A. Yes, it was, and it was a lot of snow.

22 Q. A lot of snow, indeed.

23 And I took some sworn testimony from you at  
24 that point in time, right?

25 A. Correct.

1 Q. And you were under oath then?

2 A. Yes, correct.

3 Q. So on occasion, we may be referring to that  
4 testimony; and so the jury understands, that dates back  
5 to when we were in Stockholm.

6 So welcome to Tyler.

7 A. Thank you.

8 Q. I bet you can't think of a better welcome?

9 A. No.

10 Q. All right. I want to focus for a moment on  
11 the -- on all the license agreements that have -- that  
12 have been raised in this court -- actually a handful of  
13 them and try to make something clear. And, that is, you  
14 understand that the patents that Ericsson maintains here  
15 to be 802.11-standard essential have never been  
16 determined to be so by a jury or a court? Do you  
17 understand that?

18 A. I understand that, yes.

19 Q. All right. Now, you're not suggesting that  
20 because a handful of companies involved in Wi-Fi -- and  
21 we'll get to how involved in a little bit down the road  
22 here -- but you're not suggesting that because a handful  
23 of companies did agree to a license, that the jurors  
24 here and the Court here should just pack up their bags  
25 and leave, and there's really nothing to decide on the

1 infringement issue, are you?

2       A.    No.  I don't expect anyone to pack up their  
3 bag and leave, no.

4       Q.    All right.  Now -- and the same is true on the  
5 damages issue, right?  I mean, the damages is something  
6 that's been studied internally at Ericsson, correct?

7       A.    Correct.

8       Q.    All right.  Now, you're not suggesting that  
9 because Ericsson's concluded what's fair, reasonable,  
10 and non-discriminatory, that's necessarily something  
11 that our Members of the Jury, or for that matter the  
12 Court, needs to take at face value, right?

13       A.    Well, the rates have been accepted by the  
14 opposite party, so I think it's an important part --

15       Q.    Fair point.

16       A.    -- to consider.

17       Q.    But it's certainly not something that binds --  
18 you're not suggesting that that binds the Members of the  
19 Jury, or for that matter, the Court, are you?

20       A.    I don't think that's for me to -- to judge  
21 whether it binds or not binds.

22       Q.    All right.  Now, you testified a bit earlier  
23 to the subject of -- of sanity checks and getting sanity  
24 checks on whether or not these rates made sense.

25       A.    Yes.

1 Q. And as I think you just testified, you never  
2 went to the chipset makers to get sanity checks on  
3 whether or not the pricing made any sense; am I right?

4 A. That's correct, we did not, no.

5 Q. And the chip -- chipset makers, you've heard  
6 from Mr. Brismark that the -- that the 802.11 technology  
7 at issue here in this case actually sits on the chip?

8 A. Well, I did not hear Mr. Brismark's testimony.

9 Q. You weren't here. Fair point.

10 A. No.

11 Q. But, indeed, that has been the testimony?

12 A. Okay.

13 Q. And -- and you've seen one of these -- these  
14 chips?

15 A. I did see that at the opening, yes.

16 Q. All right. So they're tiny?

17 A. Yes.

18 Q. My point here is, though, wouldn't you want a  
19 sanity check from the chipset maker who actually  
20 developed the technology, spent the R&D on the Wi-Fi  
21 technology, spent the cost manufacturing the chips,  
22 wouldn't you want a sanity check from them as to whether  
23 or not your FRAND rate makes sense?

24 A. I don't think so, no. We have been discussing  
25 with the customer, and I'm not aware of the R&D spent

1 by -- by the chipset manufacturers --

2 Q. All right. And so from your --

3 A. -- at least not personally, no.

4 Q. So from your perspective, the R&D spent by the  
5 Defendants on the chipsets or by Intel on the chipsets  
6 and the other chipset makers is really neither here nor  
7 there when it comes to the type of royalty rate that's  
8 going to attach to the Wi-Fi technology? Is that your  
9 testimony?

10 A. No. We are, of course, taking into  
11 consideration that there are other patent holders in the  
12 standard when we set our rate.

13 Q. All right. In fact, none of the licenses that  
14 you testified to this morning, with the exception of the  
15 2002 reference you made, were with chipset makers; am I  
16 correct?

17 A. That's correct.

18 Q. These were all with customers?

19 A. Yes.

20 Q. Of chips?

21 A. Yes.

22 Q. All right. And just so we're clear here,  
23 you're not suggesting, again, that the -- you know, that  
24 the jury and the Court should just, you know, "go past  
25 Go and straight to jail," as they put it in the Monopoly

1 game here, because you've had licenses taken on your  
2 technology; am I right?

3 A. Yes.

4 Q. All right.

5 A. In the way I understand the question, yes.

6 Q. Now, you talked about licenses that Ericsson  
7 entered into, and I think you -- you mentioned to the  
8 jury some of these broad cross-licenses where there's  
9 just really a ton of patents on one side being licensed  
10 to the other side and then the other side's patents,  
11 just a very broad cross-license, right?

12 A. Yes, that's correct.

13 Q. Now, I take it that in those situations,  
14 Ericsson doesn't go through each and every single patent  
15 that it gets, to make sure there's not infringement;  
16 fair point?

17 A. Very fair point, yes.

18 Q. All right. So parties get into licensing  
19 reasons -- licensing negotiations and licenses for  
20 reasons that may not really be tied to the subject of  
21 infringement; fair point?

22 A. I don't agree to that. Maybe you don't  
23 consider infringement in each and every patent. Let's  
24 say we have a situation where we license our entire  
25 portfolio to the opposite party's entire portfolio. You

1 don't establish infringement in all of those patents.

2           We have 33 (sic) patents, but I don't think  
3 that you would enter into a license agreement if you  
4 don't establish infringement at all. I don't see the  
5 need for that.

6           Q. All right. But the fact of the matter is,  
7 though, Ericsson does license patents where it has not  
8 undertaken an infringement analysis. You do agree with  
9 that part, correct?

10          A. Yes.

11          Q. All right.

12          A. But then it would be known to us that we are  
13 actually practicing certain patents of the other party.

14          Q. All right. So it's your testimony for the  
15 thousands and thousands and thousands of licenses  
16 that --

17                   MR. DAUCHOT: Strike the question.

18          Q. (By Mr. Dauchot) Let's move to the standard  
19 essential issue.

20           You understand that having to clear some of  
21 its patents to be standard essential, Ericsson has taken  
22 on a responsibility to the industry and to Wi-Fi  
23 technology consumers, such as the members of the jury  
24 here. Agree?

25          A. Agree.

1 Q. All right. Now -- and once Ericsson decided  
2 to declare its patents to be standard essential, you  
3 understand that that doesn't mean the patents are, in  
4 fact, standard essential?

5 A. Yes.

6 Q. All right. Now, once Ericsson decides to  
7 declare its patent as standard essential, it waives some  
8 rights that are normally associated with -- with  
9 patents, correct?

10 A. Under certain circumstances, yes.

11 Q. All right. And part of the waiver is a  
12 promise to license the essential parts -- the patents  
13 that it claims to be essential on fair, reasonable, and  
14 non-discriminatory terms, correct?

15 A. That's correct. If you elect to license on --  
16 on RAND terms.

17 Q. Now, the --

18 MR. DAUCHOT: Let's put up Exhibit 294  
19 for a moment.

20 Q. (By Mr. Dauchot) And I think that this has  
21 already been introduced.

22 Now, this is an example of a letter of  
23 assurance that Ericsson has signed, correct?

24 A. Yes, that's correct.

25 Q. All right. Now, what I'd like to do is focus



1 on the bottom part of it. One, here.

2 MR. DAUCHOT: And actually let's go to  
3 Page 2, David. We've covered the other language. I'll  
4 get right to the -- all right.

5 Q. (By Mr. Dauchot) Now, it states here the  
6 submitter, and that's Ericsson, correct?

7 A. Yes, that's correct.

8 Q. Will grant a license under reasonable rates to  
9 an unrestricted number of applicants --

10 A. Correct.

11 Q. -- on a worldwide basis with reasonable terms  
12 and conditions that are demonstrably free of unfair  
13 discrimination?

14 A. Yes.

15 Q. Do you see that?

16 A. Yes, I do.

17 Q. All right. Now, that doesn't say that the  
18 submitter will grant a license under unreasonable rates  
19 to an unrestricted number of applicants, except for  
20 chipset makers, does it?

21 A. No. It doesn't say that, no --

22 Q. All right.

23 A. -- explicitly.

24 Q. Now -- well, did the -- does that language  
25 appear in here, ma'am?

1 A. No.

2 Q. It does not? Now, it's Ericsson's position  
3 today that 50 cents per unit per laptop is a -- is a  
4 reasonable rate to pay, correct?

5 A. Yes, that's correct.

6 Q. And as your -- and as Ericsson's counsel  
7 mentioned, that will be subject of expert testimony on  
8 the part of Mr. Bone --

9 A. Yes.

10 Q. -- correct?

11 Now, you understand that when Mr. Bone  
12 calculated the RAND rate, that his calculation came out  
13 exactly to what Ericsson figured out internally back  
14 in -- I think as early as, what, 2009, correct? The  
15 50-cent rate?

16 A. Yes, I think -- I believe that's correct. I  
17 haven't seen that report, though, so...

18 Q. You referred to it -- that's what your  
19 expert's --

20 A. Yes.

21 Q. -- going to be testifying to?

22 A. Yes.

23 Q. Fair point.

24 All right. Now, in arriving at the 50-cent  
25 rate, do you understand that Mr. Bone assumed that the

1 negotiation for the 50-cent rate, the chipset maker  
2 would not be in the negotiation room. Do you understand  
3 that?

4 A. Yes, I understand that.

5 Q. All right. And, in fact, that's because  
6 Ericsson, as I think you alluded to earlier, had a  
7 policy of licensing the OE -- licensing at the OEM  
8 level, licensing at the customer level, but not at the  
9 Intel level, correct?

10 A. Yes. The customer being the ready-to-use  
11 device -- again, the laptop manufacturer.

12 Q. Correct. And that's even though Ericsson  
13 signed a letter of assurance along the lines of what the  
14 Members of the Jury are looking at, right --

15 A. Yes.

16 Q. -- an unrestricted number of applicants?

17 A. That's correct.

18 Q. All right. Now, in fact, Ericsson has  
19 internally recommended against licensing chip makers  
20 because that would jeopardize its licensing program. Do  
21 you understand that?

22 A. I understand that it has multiple reasons, but  
23 that is one of the reasons.

24 Q. All right. Now, it wasn't always the case  
25 that Ericsson had a policy against licensing chipset

1 makers; am I right about that?

2       A.    That's hard for me to respond to because I --  
3 I know that we have entered into a very few number of  
4 licenses for chipsets, so I don't think you can say that  
5 it was ever our policy to license on the chipset level.

6       Q.    Well, you're not doing that today, correct?

7       A.    Correct.

8       Q.    All right. But there was a time when you did,  
9 correct?

10      A.    There was a time when we entered into a couple  
11 of agreements.

12      Q.    That's right. And let's go back to that time.  
13 That was back in 2002, correct?

14      A.    That was -- was back in 2002, yes.

15      Q.    And back --

16      A.    We entered into one agreement.

17      Q.    Correct. And that agreement was with a  
18 company called Infineon, correct?

19      A.    Yes. Originally it was with one of our  
20 subsidiaries because we sold off our own component  
21 business. In those days, Ericsson sold components  
22 themselves, and we sold that business to the company  
23 called Infineon.

24      Q.    All right. So the -- the rate went to  
25 Infineon, correct?

1 A. It did.

2 Q. All right.

3 A. Because that's part of the -- the selling off  
4 the assets, our component business --

5 Q. And that rate would --

6 A. The --

7 Q. Oh, sorry.

8 A. -- the opposite party asked us for a license,  
9 of course.

10 Q. Okay. Now, that rate was 2 percent per end  
11 product, correct?

12 A. I'm not sure I understand that question, no.

13 Q. All right. So we had the -- an agreement --

14 MR. DAUCHOT: Well, actually strike that.  
15 Strike the question.

16 Q. (By Mr. Dauchot) That agreement with Infineon  
17 was for a lump sum, correct? I have my agreements mixed  
18 up.

19 A. In fact, that agreement was sales of our  
20 component business for a sum of 3.6 billion Swedish  
21 crowns --

22 Q. And the actual patent --

23 A. -- which is 600 million U.S. dollars.

24 Q. All right. And the actual patent license  
25 agreement with Infineon was for 100 -- 120,000 Euros.

1 Do I have that right?

2 A. I don't know. I would have to see the  
3 agreement to know.

4 Q. Okay.

5 A. I just know that it was part of selling off  
6 the business.

7 Q. All right.

8 MR. DAUCHOT: Why don't we put up DX 101  
9 for a moment.

10 Q. (By Mr. Dauchot) And that's in your book,  
11 Ms. Petersson.

12 Now, if we look at -- are you there or not  
13 there?

14 A. Huh-uh, but I can see the screen.

15 Q. Okay. And if you need the book, take your  
16 time. Look at Page 2, the license grant.

17 Now, the license grant is for the -- the  
18 acquirer of the patent rights to -- to make WLAN  
19 products, right?

20 A. Correct.

21 Q. And WLAN products include chipsets -- wireless  
22 chipsets, correct?

23 A. Correct, and there's a list of patents that  
24 were licensed.

25 Q. Precisely. And if we go to page -- or

1 actually Section 4 -- Section 7.1 of the agreement under  
2 royalty payment, it's actually for 100,000 Euros, right?

3 A. Correct.

4 Q. Now, 100,000 Euros back in 2002 equaled, what?  
5 Roughly -- I'm going to guess, \$120,000, rough?

6 A. Something like that, yes.

7 Q. All right. And that was per year, correct?

8 A. Yes.

9 Q. All right. Now, certainly as of 2002,  
10 Ericsson felt it appropriate to license to a maker of  
11 chipsets, correct?

12 A. Correct, as part of them buying our component  
13 business.

14 Q. Now, in 2003 -- actually let me -- let me take  
15 a step back.

16 In 2004, Ericsson was considering also  
17 licensing the chipset manufacturers. Do you remember  
18 that?

19 A. No, I do not. You have to --

20 MR. DAUCHOT: All right. Let's put --  
21 let's put up DX 21 up.

22 Q. (By Mr. Dauchot) And what we have is  
23 suggested -- we have WLAN licensing: Business case  
24 2004. And if we turn to Page 12, we see here the  
25 last -- the last bullet point suggested market

1 segmentation/targeting: Chipset manufacturers  
2 (essential patents). Do you see that?

3 A. Yes.

4 Q. Okay. So that was the thinking back then,  
5 correct?

6 A. I don't know because I have never seen this  
7 document before, so I don't know.

8 Q. All right. But you're not disputing that it's  
9 an Ericsson document, are you?

10 A. It looks like an Ericsson document, yes.

11 Q. All right. Fair point.

12 The -- the rate that was being considered --  
13 and I think it was explained through Mr. Brismark this  
14 morning. I know you weren't here. There is a  
15 difference between the essential and -- and  
16 non-essential implementation patents. You understand  
17 that?

18 A. Yes.

19 Q. And what we're talking about here are the  
20 essential patents, right, in this case?

21 A. Since I haven't seen the document, I don't  
22 know -- you mean in this case?

23 Q. Yes.

24 A. Yes.

25 Q. All right. Now, if you could turn to Page 17.



1 All right?

2 A. Yes.

3 Q. Now, to suggest a target royalty on the chips  
4 was 2 percent of sales revenue. Do you see that?

5 A. Yes.

6 Q. All right. So if we take that on a per unit  
7 basis, what's the -- the average price of today's  
8 chipsets, roughly 2.50 -- \$2.50?

9 A. If you say so.

10 Q. All right. And 2 percent of that is, what, 5  
11 cents?

12 A. If you say so.

13 Q. All right.

14 A. I would need a calculator, I think.

15 Q. You could -- I think you could take my word  
16 for it on that math. Anyway, that was the mind-set back  
17 in 2004. But as you understand, the price of a chipset  
18 since back then has dropped dramatically, correct?

19 A. That's my understanding, yes.

20 Q. All right. So chipsets have -- over the  
21 course of time, the prices on a chipset have fallen,  
22 fallen, fallen?

23 A. Yes, they have.

24 Q. All right. So that if you stuck with your  
25 policy back then of licensing the chipset maker and you

1 stuck to that today, you'd be making a lot less money  
2 than you may have been making back in 2002 and 2004; am  
3 I correct?

4 A. If this was our policy, yes.

5 Q. All right. So -- and back then you also had  
6 the letters of assurance where you promised to  
7 unrestricted members in the industry, including chipset  
8 makers, to license your patents on a RAND basis,  
9 correct?

10 A. Correct.

11 Q. All right. Now, let's look at Exhibit 104 --  
12 DX 104.

13 MR. DAUCHOT: Now, could we turn to Page  
14 10, please, David?

15 When I refer to David, I'm speaking to my  
16 colleague here, David. He's -- he's always with me  
17 helping here with the exhibits. Okay. We have it up  
18 there.

19 Q. (By Mr. Dauchot) And let's take a step back.

20 MR. DAUCHOT: David, can you go back to  
21 Page 8 for me? Thanks.

22 Q. (By Mr. Dauchot) All right. So part of this  
23 presentation is called Licensing the Value-Chain, right?

24 A. Yes.

25 Q. All right. And then the next page, what we

1 see at the top of the value-chain, if you will, is the  
2 chip. Do you see that?

3 A. Yes, I see that.

4 Q. All right. And at the bottom of it we have  
5 the OEM, right?

6 A. Yes, correct.

7 Q. And OEMs mean that the NETGEARS, the Dells,  
8 and -- and the D-Links and other Defendants like that in  
9 this case, correct?

10 A. Yes, that's correct. I see you have HP and  
11 Dell in there as examples.

12 Q. The chip is Intel?

13 A. Yes.

14 Q. And companies like Broadcom?

15 A. Yes.

16 Q. And companies like Qualcomm?

17 A. Yes.

18 Q. All right. Now, if we flip to the next page,  
19 what Ericsson's concluded as part of its licensing  
20 strategy and its policy not to license the chipset  
21 makers is that if you license the chipset makers, you  
22 stand to make a little dollar?

23 A. Yes.

24 Q. And if you license the OEMs, the Dells, the  
25 NETGEARS, the D-Links, and the like, we're talking

1 bigger dollars, correct?

2 A. Correct.

3 Q. Now, did the letter of assurance that Ericsson  
4 signed twice, in 2003, I believe, and then again in  
5 2010, state -- or 11 --

6 MR. DAUCHOT: Thanks, Justin.

7 Q. (By Mr. Dauchot) -- 2011, state that Ericsson  
8 need only license an unrestricted number of industry  
9 members if -- if it suits them from a -- from a dollar  
10 standpoint, that -- that they have the authority just to  
11 target the -- the parties out there where they stand to  
12 make the bigger dollars? Does that say that in that  
13 letter of assurance, yes or no, ma'am?

14 A. It says that we will license fully compliant  
15 products.

16 Q. And it states that you will license to  
17 unrestricted?

18 A. Numbers to fully compliant products, yes.

19 Q. All right. Now, you won't deny, will you,  
20 Ms. Petersson, that your patenting group adopted this  
21 strategy to maximize profits -- namely, the strategy of  
22 not going to chipset makers for a license; am I correct?

23 A. Yes, you're correct. You can see on the slide  
24 at the bottom, it says license to OEM. It has two  
25 reasons. No. 2, which is our main reason, to secure

1 cross-license for Ericsson products. That would be the  
2 cross-license for our own products. And, 2, of course,  
3 to maximize our return on investment in these ideas.

4 MR. DAUCHOT: And can we go back to DX  
5 537, please, David? And can we go to Page 22? And can  
6 we blow up the --

7 Q. (By Mr. Dauchot) Again, the issue is where to  
8 license. Do you go to Intel, the folks who actually  
9 make the chipsets on which the 802.11 technology sits,  
10 or do you go to the customers, right?

11 A. Yes.

12 Q. That's the question.

13 And then at the bottom of the page --

14 MR. DAUCHOT: Can you blow that up for  
15 me, David? Thank you.

16 Q. (By Mr. Dauchot) It says: One big  
17 advantage -- and that's the last line -- one big  
18 advantage with this strategy is also that it is likely  
19 that the royalty income will be higher since we  
20 calculate the royalty on a more expensive product.

21 A. Correct, that's what it says there.

22 Q. And I believe -- I think your counsel referred  
23 to a thousand-dollar laptop, right?

24 A. Yes, correct.

25 Q. And we can all agree that a thousand-dollar

1 laptop is more expensive than a two-and-a-half-dollar  
2 chip?

3 A. That we can agree.

4 Q. And when we look at the 50-cent royalty that  
5 Ericsson is trying to impose on the cost of Wi-Fi  
6 technology, it's fair to say that the 50 cents looks a  
7 whole lot better in the context of the thousand-dollar  
8 laptop than it does in the context of the  
9 two-and-a-half-dollar chip. Can we say that?

10 A. I -- I don't want to judge on that  
11 necessarily.

12 Q. Okay. Now, you referred the members of the  
13 jury to this concept of patent exhaustion.

14 A. Yes --

15 Q. Right?

16 A. -- I did.

17 Q. Okay. And as you mentioned, the patent  
18 exhaustion concept is if you -- if you -- once you  
19 license the chipset makers, those licenses extend down  
20 to the customers. The customers get the benefit of  
21 those licenses, right?

22 A. Yes, correct.

23 Q. Okay. Now -- so that if -- if you make a deal  
24 with Intel or a Broadcom or a Qualcomm or anybody who  
25 makes a chipset and you have them in that negotiation

1 room, that deal is going to mean that it goes downstream  
2 to the customers, as well, correct?

3 A. Yes. For the inventions being implemented  
4 into that chip, yes.

5 Q. All right. Now, when Ericsson does that, from  
6 Ericsson's perspective, it loses, right?

7 A. It loses from two perspectives.

8 Q. Could you answer my question? It loses,  
9 correct?

10 A. Correct.

11 MR. DAUCHOT: All right. Now, can we put  
12 up Exhibit 104, please? I'm sorry, David. I meant  
13 Exhibit 104. Yep, there you go. And can you go to Page  
14 14 for me? All right.

15 Q. (By Mr. Dauchot) So let's take --

16 MR. DAUCHOT: Again, go back one page,  
17 David. There you go.

18 Q. (By Mr. Dauchot) So this is a part of the  
19 presentation that deals with patent exhaustion, right?

20 A. Right.

21 Q. And if we go to the next page at Page 14. All  
22 right. You see that? As an infrastructure player,  
23 Ericsson loses if licensing on the chip level. Do you  
24 see that?

25 A. Yes.

1 Q. All right.

2 A. That is the cross-license that we are  
3 concerned about in relation to our own products.

4 MR. DAUCHOT: Well, can we go back to  
5 Exhibit 537, please, David? Can we go back to Exhibit  
6 537, David? Thanks. And Page 22. The bottom of the  
7 page, can we blow up that sentence beginning with "one  
8 big advantage"?

9 Q. (By Mr. Dauchot) All right. You're not  
10 denying that, are you, Ms. Petersson?

11 A. No. I'm saying that there are two reasons.  
12 You were showing me one reason here, and you just showed  
13 me the other reason.

14 Q. All right. But you're not denying that one  
15 big advantage, from Ericsson's perspective, is that if  
16 its chipset maker stays out of the negotiation room  
17 policy will make it likely that the royalty will be  
18 higher since you're dealing with folks who make a more  
19 expensive product? You're not denying that, are you?

20 A. No, correct. Because it's the -- the product  
21 that can be used that we see the value of our  
22 technology.

23 Q. Okay. And the LOA, Ms. Petersson, again, the  
24 promise that you made to the industry doesn't state,  
25 does it, that you're only required to license folks if



1 they make the very expensive product; am I right?

2 A. It doesn't say when they make the very  
3 expensive products, but it states that we make the  
4 obligation to license fully compliant products.

5 Q. Okay. And you're not taking the position that  
6 the chipset at issue here, that the 802.11 standard --  
7 that the chipset that's being accused in this case as  
8 being part of what's in the -- the OEM products is not  
9 compliant with 802.11, are you?

10 A. It is compliant.

11 Q. All right. So just -- we're clear?

12 A. Yes, it is compliant.

13 Q. It is compliant?

14 A. It cannot be used, though --

15 Q. But it is fully --

16 A. -- in the context of being a consumer.

17 Q. But it is fully compliant, correct, ma'am?

18 A. It is compliant.

19 Q. All right.

20 A. It is maybe not fully complaint.

21 Q. Now, let's --

22 A. Fully compliant for me is when a product can  
23 actually be used.

24 Q. Okay. For you?

25 A. Yes.

1 Q. Personally?

2 A. No. That's -- that's our commitment, that we  
3 have to license fully compliant products. And fully  
4 compliant products are products that can actually be  
5 used by the consumer.

6 Q. And the Intel chipset is fully compliant with  
7 the 802.11 standard, correct?

8 A. Not correct.

9 Q. So you're taking the position that the Intel  
10 chipset that is in the products being sold here by the  
11 Defendants does not comply with 802.11n?

12 A. It complies.

13 Q. Okay.

14 A. It is not fully compliant.

15 Q. All right. Let's look at the aggregation  
16 issue. You understand that from a standard essential  
17 patent perspective, Ericsson has the responsibility to  
18 consumers and the industry to not block the 802.11  
19 standard, correct?

20 A. Correct.

21 Q. All right. Now, part of that responsibility  
22 means that the rate you actually impose on the 802.11  
23 technology has to be such that it considers all of the  
24 other patents associated with that technology, correct?

25 A. The way we phrase it is that we believe that a

1 patent holder who has a FRAND or RAND commitment has to  
2 take into consideration when it sets its rate that there  
3 are also other patent holders in the same area.

4 Q. All right. Now, there are, in fact, other  
5 patent holders in this same area, correct?

6 A. That's my understanding, yes.

7 Q. And from -- Ericsson -- Ericsson understands  
8 that most of the 802.11-related patents are going to be  
9 with the chipset makers. Ericsson knows that, correct?

10 A. That is not known to me, I'm afraid.

11 Q. To you personally?

12 A. I -- yes.

13 Q. Okay.

14 A. It's not known to me.

15 Q. All right. You're not denying that WLAN  
16 patents are mainly held by chipset suppliers, are you?

17 A. I don't know.

18 Q. You don't know?

19 A. No.

20 Q. Okay.

21 MR. DAUCHOT: Can you put up DX 81 at  
22 Page 6, please?

23 Q. (By Mr. Dauchot) And you see the third bullet  
24 point?

25 A. Yes, I do.

1 Q. All right. You don't have an opinion about  
2 that, one way or the other?

3 A. No. I'm afraid not. I don't.

4 Q. All right. And that's an Ericsson document,  
5 correct?

6 A. Yes.

7 Q. All right. Now, in trying to figure out  
8 whether or not your 50-cent rate complies with this  
9 aggregation concept, Ericsson did take into account the  
10 other parties out there in the market who might have  
11 patents, correct?

12 A. Correct.

13 Q. And part of that policy, again, was before you  
14 set the 50-cent rate, you want to make sure you take  
15 into account others out there who might have licenses to  
16 this technology.

17 A. That's our belief, yes, that you need to do  
18 that.

19 Q. The point is -- the point being that if you  
20 just consider your own patents, if you will, the patents  
21 that you think are compliant and you ignore everything  
22 else, next thing you know you have somebody trying to  
23 practice the standard and you -- you have stacking. You  
24 have patent on top of patent on top of patent with  
25 royalty rates that aren't going to allow the Wi-Fi

1 standard to get practiced.

2 A. Yes, exactly.

3 Q. All right.

4 A. You cannot fully ignore that there are other  
5 patent holders in the same area.

6 Q. All right.

7 MR. DAUCHOT: Now, David, can you put up  
8 Exhibit 65, DX 65, at Page 2, please?

9 Q. (By Mr. Dauchot) All right. Now, when we were  
10 together in Stockholm, I think you told me that this was  
11 the analysis on the stacking issue, right?

12 A. Yes.

13 Q. Now, if we look at the -- and this is the  
14 analysis that Ericsson used, to arrive at its 50-cent  
15 rate, correct?

16 A. Correct.

17 Q. All right. Now, if we look -- and there's a  
18 pie chart here where Ericsson tried to consider who else  
19 in the business was -- may have had patents associated  
20 with the 802.11 technology, correct?

21 A. Correct.

22 Q. All right. And this analysis was done in  
23 2000 and -- was it '9?

24 A. (Pause) Yes, correct.

25 Q. You were prompted.

1 A. (Laughed)

2 Q. In 2009.

3 Now, again, this is to make sure that whatever  
4 rate you come up with, that when you stack the numbers  
5 up, it doesn't get too expensive, correct?

6 A. That's a best-effort thing that we do  
7 internally to make sure that we do consider that there  
8 are other patent holders in the same area.

9 Q. All right. Now, in 2009, Ericsson knew that  
10 Intel manufactured Wi-Fi chips, correct?

11 A. I don't know, but I would -- I would -- that's  
12 my guess; but I don't know, I'm afraid.

13 Q. And Intel knew -- or I'm sorry -- Ericsson  
14 knew that Broadcom made chips, right?

15 A. I don't know.

16 Q. But you would suppose?

17 A. Yes.

18 Q. I mean, it wasn't a secret that Broadcom --

19 A. No, no.

20 Q. -- was out there making a lot of --

21 A. No, no. It's just not known to me personally.

22 Q. Fair point.

23 Qualcomm as well?

24 A. Yes.

25 Q. All right. And none of these major chipset

1 makers are included in your chart, correct?

2 A. I believe -- actually, it's my belief that  
3 Qualcomm were not making chips in the Wi-Fi area in  
4 2009.

5 Q. Okay. But certainly, Intel and Broadcom.

6 A. Yes.

7 Q. All right. And they're not on this pie chart,  
8 correct?

9 A. No. Correct.

10 Q. All right. Now, Panasonic is not a Wi-Fi chip  
11 supplier; am I correct?

12 A. Correct.

13 Q. Nor is Nortel, correct?

14 A. I think not, no.

15 Q. All right. And AT&T -- nor is AT&T, right?

16 A. No, definitely not.

17 Q. All right. Nor is anybody else on this pie  
18 chart, correct?

19 A. Correct.

20 Q. All right. Let's focus for a moment on the  
21 licenses that you -- that you referenced earlier today.

22 One thing I'd like to make clear, though, is  
23 that when these licenses were entered into, these are  
24 licenses that are entered into -- into after Ericsson  
25 started adopting its policy of not licensing chipset

1 makers, correct?

2 A. Correct.

3 Q. All right. So none of the licenses that you  
4 mentioned were licenses with chipset makers -- with the  
5 chipset maker in the negotiation room, correct?

6 A. Correct.

7 Q. All right. Now, from Ericsson's perspective,  
8 if you did allow the chipset makers into the negotiation  
9 room, you would come out with a lower dollar number,  
10 right?

11 A. I cannot answer that because I don't know.

12 Q. Well, let's look at DX 104 again at Page 10.  
13 The small dollar is with the chipset manufacturer; the  
14 big dollar is with the OEM, right?

15 A. Yes.

16 Q. Okay. Let's turn to the HP license about  
17 which you testified. And in particular, let's talk  
18 first about the three or so documents that you talked  
19 about, the internal analyses.

20 You with me?

21 A. Yes.

22 Q. Okay. And I think we referred -- actually, I  
23 want to focus in on two of them, PX 238, which was the  
24 internal numbers, right?

25 A. (No response.)



1 Q. And then there was PX 244.

2 MR. CAWLEY: Your Honor, I apologize for  
3 interrupting, but I think that Counsel is about to get  
4 into the same confidential information that we had to  
5 ask the Court to clear the courtroom before. So if  
6 that's the case...

7 THE COURT: All right. Do you intend to  
8 go into that?

9 MR. DAUCHOT: I do, Your Honor. And I  
10 thank Counsel for reminding me.

11 THE COURT: All right. Very well.

12 Ladies and gentlemen, I am hereby sealing  
13 the courtroom again, so if you're -- as earlier, if  
14 you're not an attorney or expert witness or party  
15 covered by the protective order in this case, you will  
16 need to leave the courtroom at this time. We'll let you  
17 back in just as soon as they finish with this part of  
18 the testimony.

19 And, Counsel, I'd ask you to advise me  
20 when we get to that point.

21 (Courtroom sealed.)

22 (This portion of the proceedings is  
23 SEALED and filed under separate cover.)

24 (Courtroom unsealed.)

25 THE COURT: All right, Mr. Cawley.

1 MR. CAWLEY: Thank you, Your Honor.

2 THE COURT: You may proceed.

3 REDIRECT EXAMINATION

4 BY MR. CAWLEY:

5 Q. Ms. Petersson, I just have a few matters that  
6 I'd like to clear up.

7 A. Okay.

8 Q. First of all, I want to understand and make  
9 sure that the jury understands the whole story --

10 A. Yes.

11 Q. -- about Ericsson's policy of licensing chip  
12 makers.

13 A. Yes.

14 Q. Now, you've told us that for many years  
15 Ericsson had a policy that it wouldn't license chip  
16 makers, correct?

17 A. Correct.

18 Q. And told us why. I have not asked you again.  
19 You told us why, right?

20 A. Yes, I did.

21 Q. And when this lawsuit began, Ericsson didn't  
22 sue Intel, correct?

23 A. Correct.

24 Q. And you told us that's because of -- you  
25 didn't -- didn't seek a license from them?

1 A. Correct.

2 Q. Okay. But isn't it true that the whole story  
3 is that recently Ericsson has offered a license to  
4 Intel?

5 A. That's also correct, yes.

6 Q. What terms has Ericsson offered to license  
7 Intel?

8 A. For 50 cents.

9 Q. Per chip -- per chipset?

10 A. Yes.

11 Q. For 50 cents per chipset?

12 A. Yes.

13 Q. Why has Ericsson made that exception to its  
14 policy not to license chip makers?

15 A. In an effort to try and settle this lawsuit.

16 Q. Okay. Now, let's talk about that commitment,  
17 as well.

18 MR. CAWLEY: If you would, please, pull  
19 up Plaintiffs' Exhibit 293.

20 Q. (By Mr. Cawley) Now, do you recognize this as  
21 the first letter of assurance that Ericsson sent in  
22 2003?

23 A. Yes, I do.

24 Q. And you tried to give some explanation about  
25 this on cross-examination, and I want to -- I want to

1 give you a little bit fuller opportunity to do so.

2 A. Yes.

3 Q. Attached to the letter that we see right  
4 here --

5 A. Yes.

6 Q. -- was there another -- it's not really  
7 another letter, but -- but a third page of this letter.  
8 Lets go to that third page.

9 Did Ericsson send this, along with its letter  
10 of assurance?

11 A. We did, yes.

12 Q. Let me just read part of it. Ericsson will,  
13 upon written request of any Applicant, grant such  
14 Applicant a personal, non-exclusive license on fair,  
15 reasonable, and non-discriminatory terms for only that  
16 portion of any product that is fully compliant with the  
17 IEEE 802.11 standards.

18 What does that mean, Ms. Petersson?

19 A. That means that we committed to license  
20 products that actually uses the standard in the sense  
21 that it can be used for Wi-Fi transfer.

22 Q. All right. So when you said on  
23 cross-examination several times that a chip may comply  
24 with the standard but not fully comply, could you  
25 explain to us what you mean?

1           A.    I mean that the chip itself can comply in the  
2   sense that the functionality is incorporated into the  
3   chip.  But as a user -- as a consumer, the chip has no  
4   use for me.  So to be fully compliant, it has to be  
5   integrated into the final product to be used.

6           Q.    Okay.  Let's move on to Defendant's Exhibit  
7   65.  You were asked about this Ericsson document.

8                       MR. CAWLEY:  And if we can go to the next  
9   page, please.

10          Q.    (By Mr. Cawley)  Do you remember this  
11   discussion?

12          A.    Yes, I do.

13          Q.    Tell us what this is.

14          A.    That is our internal effort to try and check  
15   if our rate is in accordance with RAND, which for us  
16   means that we need to take into consideration that there  
17   are other patent holders in the industry.  That's what  
18   we do at the outset.  Then we go out and we try to  
19   negotiate this rate and we learn, of course, in the  
20   process of meeting with potential users who then enter  
21   into agreements with us.

22          Q.    Okay.  Why did Ericsson create this document,  
23   again?

24          A.    That was for our internal purposes, to make  
25   sure that we actually had considered that there were

1 other patent holders in the industry.

2 Q. Okay. Is this Ericsson's effort, among  
3 others, to try and be sure that it did the right thing  
4 and complied with its RAND commitment by considering not  
5 only its own patents but others?

6 A. Yes, it is.

7 Q. Okay. And, finally, let's talk briefly about  
8 Defendant's Exhibit 62. This is the McKinsey report.

9 A. Yes.

10 Q. First of all, who is -- this is not an  
11 Ericsson document, right?

12 A. No. No, it's not.

13 Q. It was prepared by a company called McKinsey.  
14 What is McKinsey?

15 A. They are a consultant firm --

16 Q. Okay.

17 A. -- who makes analysis of -- of businesses.

18 Q. So a company can hire McKinsey and ask them,  
19 why don't you give us some advice and suggestions about  
20 things we might do to be more profitable, to make a  
21 better business?

22 A. Yes, correct.

23 Q. And Ericsson -- apparently someone hired  
24 McKinsey to do that for Ericsson?

25 A. Yes, we did. We did that to have them go

1 through our entire business, in fact, not only the  
2 business of IPR, but also in other areas within  
3 Ericsson.

4 Q. Okay. And one of the recommendations that we  
5 saw that McKinsey made was that Ericsson should, if it  
6 has to, be more aggressive about filing lawsuits to  
7 recover fair value for others who use their patents; is  
8 that fair?

9 A. That's fair.

10 Q. Has Ericsson adopted or followed all of  
11 McKinsey's recommendations?

12 A. To some extent, yes. And that has to do with  
13 the fact that we have a licensing program. And if you  
14 have a licensing program so that you have licensees who  
15 are paying, you are treating them discriminatory if you  
16 simply ignore the ones who are not paying. So if  
17 companies elect not to enter into license agreements  
18 with Ericsson, we might have to take action.

19 Q. Now, Ms. Petersson, is Ericsson a  
20 publicly-traded company?

21 A. Yes, we are.

22 Q. So anyone who wants to -- anyone around the  
23 world could buy stock in Ericsson?

24 A. Yes.

25 Q. What kind of people own stock in Ericsson?

1 A. I would guess everyone around.

2 Q. Okay. All kinds of people?

3 A. Yes.

4 Q. Are the patents that Ericsson holds, like the  
5 patents in this lawsuit, assets of the company?

6 A. They are, of course.

7 Q. What responsibility do you feel, Christina  
8 Petersson, to recover fair value for Ericsson and its  
9 shareholders for the use of Ericsson's assets?

10 A. I feel a huge responsibility, especially since  
11 the licensing income that we make -- the fair  
12 compensation for the use of our patented ideas, they are  
13 being fed back into further R&D investments in Ericsson.

14 Q. Thank you, Ms. Petersson.

15 MR. CAWLEY: Pass the witness, Your  
16 Honor.

17 THE COURT: Any further recross?

18 RECROSS-EXAMINATION

19 BY MR. DAUCHOT:

20 Q. Ms. Petersson, two points -- one on the  
21 50-cent issue that you -- that you raised. It's a fact,  
22 though, that that offer came roughly, what, eight weeks  
23 ago, just before the trial?

24 A. I believe so, yes.

25 Q. All right. And before then, that's when it



1 came, eight weeks -- eight weeks ago, right?

2 A. If it's eight weeks or nine week -- nine  
3 weeks, I'm not sure, but roughly that time frame.

4 Q. All right. And that proposal that a chipset  
5 maker pay a total of 50 cents per chip that sells for on  
6 average 2.40 -- \$2.40 on the market, that was rejected,  
7 correct, by Intel?

8 A. Okay. If you say so.

9 Q. Well, we're here, right?

10 A. Yes.

11 Q. Okay. Intel did not want to pay that much on  
12 a \$2.40 chip?

13 A. At least it hasn't been accepted so far.

14 Q. All right.

15 A. Let me put it that way.

16 Q. And as you understand from this litigation,  
17 Intel is denying -- has taken the position and standing  
18 by its customers that there is no infringement here of  
19 the Ericsson patents being asserted. You understand  
20 that?

21 A. I understand that, yes.

22 Q. All right. Thank you, Ms. Petersson.

23 THE COURT: Thank you.

24 MR. CAWLEY: No further questions, Your  
25 Honor.

1                   THE COURT: All right. If the jury would  
2 pass down their question sheets for Ms. Petersson,  
3 please.

4                   (Pause.)

5                   THE COURT: All right. We'll take a  
6 short break, Ladies and Gentlemen of the Jury. Let's  
7 see, it's 2 o'clock now. We've been going for about an  
8 hour and 15 minutes. I think we'll go ahead and take  
9 our afternoon break at this time. We'll be in recess  
10 for 15 minutes, and then we'll come back and proceed.

11                  COURT SECURITY OFFICER: All rise.

12                  (Jury out.)

13                  THE COURT: Please be seated. Well, we  
14 have a very attentive jury here.

15                  This person asked: Has any chipset maker  
16 been denied licensing of Ericsson's Wi-Fi patents,  
17 question mark? And then it's marked out and said  
18 answered in redirect. So, again, they were anticipating  
19 what y'all -- what the able lawyers have done both in  
20 cross and redirect.

21                  Then we have another question: Who are  
22 Defendants paying their license fee to for Wi-Fi, if not  
23 Ericsson?

24                  So are there any objections to that  
25 question?

1                   MR. CAWLEY: No objection from the  
2 Plaintiff, Your Honor.

3                   MR. VAN NEST: Could you read that second  
4 question again?

5                   THE COURT: Who are Defendants paying  
6 their license fee to for Wi-Fi, if not Ericsson?

7                   MR. VAN NEST: I don't understand that  
8 question. I'm not sure it's proper either. There's  
9 been no evidence that Defendants are paying any Wi-Fi  
10 fee.

11                  THE COURT: I think that's what they're  
12 asking, whether they are or not would be how I would  
13 read it.

14                  MR. VAN NEST: I mean, I think this --  
15 this goes into the area we discussed earlier, Your  
16 Honor. We have other licenses, but they're outside the  
17 scope of this case. I think you issued an order --

18                  THE COURT: We have other -- other  
19 licenses, what do you mean?

20                  MR. JONES: We have other licenses, Your  
21 Honor, such as the CSIRO license would be a Wi-Fi  
22 license. The Wi-LAN license would be a Wi-Fi license.  
23 None of those licenses have been relied upon by any  
24 expert in this case.

25                  The only issue that I think is opened

1 with regard to them is the fact they want to  
2 cross-examine our expert on that issue, but there's --  
3 you know, at the end, there's no evidence of that.

4 And secondly, I think it would be  
5 improper at this time to bring it in.

6 MR. CAWLEY: Well, Your Honor, I  
7 fundamentally disagree that that's what's going on with  
8 the question. The question, to me, reflects a  
9 misunderstanding that they -- that the Defendant is --  
10 is paying someone else instead of Ericsson, and I think  
11 that it's entirely proper to straighten that out and  
12 have the witness explain that if they're not paying us,  
13 they may not be paying anybody.

14 THE COURT: All right. Let me ask the  
15 witness, do you -- do you know the answer to that  
16 question?

17 THE WITNESS: I don't know the answer to  
18 the question, whether they have other licenses. That  
19 would be -- not something I could see. What I could  
20 explain is that there's no other access to Ericsson's  
21 portfolio than through us. It doesn't mean that you can  
22 take a license from another party and get access to our  
23 portfolio if that's the question.

24 THE COURT: All right. Okay. I think  
25 that would be an appropriate answer that would clarify

1 it, and I'll allow the question.

2 We'll be in recess until 2:30.

3 MR. JONES: Thank you, Your Honor.

4 COURT SECURITY OFFICER: All rise.

5 (Recess.)

6 COURT SECURITY OFFICER: All rise.

7 (Jury in.)

8 THE COURT: All right. Please be seated.

9 All right. Ms. Petersson, we have one  
10 question for you from the jury, and that is this:

11 Who are Defendants paying their license  
12 fee to for Wi-Fi, if not Ericsson?

13 THE WITNESS: Yes. And I think the  
14 question is this: Can you, instead of buying the Wi-Fi  
15 from Ericsson, buy from a different supplier or from a  
16 different patent holder?

17 However, since this is a standard, you  
18 need access to everyone's patents in order to sell a  
19 Wi-Fi-compliant product. So it's not like in the normal  
20 world where you can choose between buying an Apple phone  
21 or a Samsung phone.

22 In this case, these patents are all  
23 applicable to the standard. So you will need a license  
24 from multiple companies. You cannot elect to not take a  
25 license from Ericsson and instead take a license from

1 somebody else.

2 THE COURT: Thank you.

3 THE WITNESS: I hope that was the  
4 question.

5 THE COURT: All right. Any follow-up  
6 questions?

7 MR. CAWLEY: No, Your Honor.

8 THE COURT: All right. From the  
9 Defendants?

10 MR. DAUCHOT: No, Your Honor.

11 THE COURT: All right. You may step  
12 down, Ms. Petersson.

13 MR. CAWLEY: Your Honor, may this witness  
14 be excused?

15 THE COURT: May she be excused from the  
16 Rule?

17 MR. DAUCHOT: She may.

18 THE COURT: All right. You are excused.

19 THE WITNESS: Thank you.

20 THE COURT: Thank you.

21 Who is your next witness?

22 MR. CAWLEY: We would like to play two  
23 more video depositions --

24 THE COURT: All right.

25 MR. CAWLEY: -- with the Court's

1 permission.

2 May I read the same --

3 THE COURT: Yes, you may.

4 MR. CAWLEY: Ladies and Gentleman, next  
5 you will see the video deposition of Mr. Eric Schon.

6 Mr. Schon is an engineer at Ericsson and  
7 a named inventor on the '215 patent.

8 Ericsson has designated 10 minutes and 11  
9 seconds of testimony, and the Defendants have designated  
10 58 seconds, which means this deposition will be about 11  
11 minutes long.

12 THE COURT: All right. You may proceed.

13 (Video playing.)

14 QUESTION: I want to shift gears --

15 ANSWER: Okay.

16 QUESTION: -- and ask if you could just  
17 introduce yourself to the jury.

18 ANSWER: My name is Erik Schon. Born and  
19 raised in Stockholm, Sweden. Went to -- to college here  
20 in Stockholm at the Royal Institute of Technology.  
21 Studied engineering, physics. Majored in engineering,  
22 physics, and computer science.

23 Spent six months in the University of  
24 Hamburg doing physics and computer science. Did my  
25 Master's thesis in the Swedish Institute of Computer

1 Science. Graduated in 1995.

2 QUESTION: And, sir, are you an inventor  
3 on the '215 patent?

4 ANSWER: I am.

5 QUESTION: Are there other inventors?

6 ANSWER: There are.

7 QUESTION: Do you remember their names?

8 ANSWER: Yeah. There were several.

9 Kazuhiko Inoue, Mathias Johansson or Mathias Cramby, as  
10 he's now called, Per Beming, Christiaan Roobol, Michael  
11 Meyer, Joachim Sachs, Bela Rathonyl.

12 QUESTION: And were you at Ericsson when  
13 you came up with your invention?

14 ANSWER: I was.

15 QUESTION: And when did you join  
16 Ericsson?

17 ANSWER: I joined Ericsson in 1995.

18 QUESTION: And you discussed a little bit  
19 about your educational background. What were you doing  
20 before you joined Ericsson?

21 ANSWER: I just graduated from -- from  
22 college from the Royal Institute of Technology in  
23 Stockholm, Sweden.

24 QUESTION: How did you get a job at  
25 Ericsson?



65

1                                   ANSWER:  I -- I applied for -- for two  
2   jobs at Ericsson, actually, and I got both.  And I  
3   picked the one that was the most interesting, which was  
4   cellular technology/mobile telephony, and I -- I -- I  
5   had the great honor to transfer to Ericsson as a  
6   trainee, which is quite fulfilling, something I'm proud  
7   of.

8 QUESTION: And where do you work now?

9                   ANSWER: I work in Ericsson.

10 QUESTION: And where is that?

11                   ANSWER:   Ericsson in Kista; Stockholm,  
12 Sweden.

13 QUESTION: And where is that in relation  
14 to us?

15 ANSWER: Do you mean -- relation to what?

16 QUESTION: Well, we're at the Sheraton  
17 Stockholm.

18 ANSWER: Aha. Yeah. Yeah.

19 QUESTION: Where is it in relation to us?

20                   ANSWER:  It's -- it's a couple of  
21 kilometers north -- north of Stockholm.

22 QUESTION: And where do you live?

23                   ANSWER: I live further north of  
24 Stockholm, a few more kilometers.

25 QUESTION: Is that a big commute to work?

1                   ANSWER: It depends on traffic. I mean,  
2 sometimes it's 15 minutes; sometimes it's an hour.  
3 Depends on the -- the amount of traffic.

4                   QUESTION: And do you live there with  
5 your family?

6                   ANSWER: I do, yes.

7                   QUESTION: And how many -- can you tell  
8 us about your family members?

9                   ANSWER: I have a wife, two kids, 5 and 7  
10 years old, daughter and son. I'm really happy and  
11 proud.

12                  QUESTION: Tell me about the -- going  
13 back to your work at Ericsson, can you tell me about  
14 what work you were doing before the work that led to the  
15 '215 patent?

16                  ANSWER: I worked on -- on 2G and 3G  
17 cellular technologies as a system engineer.

18                  QUESTION: And can you tell us about the  
19 work that you were doing in particular when you came up  
20 with the '215 patent with your co-inventors?

21                  ANSWER: At the time of the -- of the  
22 patent, we were a team in Ericsson working in -- in  
23 standardization in 3GPP.

24                  All the companies of the world, from --  
25 from North America, from Asia, from Europe, sent

1 their -- their best and brightest to the 3GPP meetings  
2 to come up with a global standard, the first global  
3 mobile telephony standard ever.

4                   So that was -- was a great time. A lot  
5 of great people, skilled people, experienced people  
6 with -- with a lot of bright ideas and a lot of  
7 contributions.

8                   And it was a true meritocracy. I mean,  
9 the best ideas -- we'd sort of compete, and the best  
10 ideas would win and get it into the spec, so we could  
11 get a really good specification with a great performance  
12 for -- for you and me as -- as users of -- of cell  
13 phones.

14                   QUESTION: And did you meet your  
15 co-inventors in connection with that work?

16                   ANSWER: I did.

17                   QUESTION: And how long did it take for  
18 you and your co-inventors to arrive at the invention?

19                   ANSWER: I think we worked over a long  
20 period of time with various aspects of the  
21 retransmission protocol in 3GPP. This particular  
22 invention, I think it was maybe a month, maybe two. So  
23 gradually growing.

24                   I remember several workshops and work  
25 meetings and phone conferences and e-mails going around,

1 ultimately leading us to -- to the ideas in the -- in  
2 the '215 patent.

3 QUESTION: And were you excited when you  
4 came upon your invention?

5 ANSWER: Yeah, it was really exciting  
6 to -- to -- to come up with a -- with a patent. And  
7 that's something I'm -- I'm proud to tell my kids that.  
8 And it's not something anyone can do. So I'm really  
9 proud of it.

10 And -- and being an inventor, being --  
11 coming up with innovations, that's -- that's so  
12 fulfilling and so energizing. So it means a lot to me.

13 QUESTION: So you could you please  
14 summarize for the jury your invention?

15 ATTORNEY: Objection to form.

16 ANSWER: I think that what our invention  
17 does will help you and me when we use the cell phone  
18 system to -- to get better quality. I mean, fewer  
19 dropped calls, better voice quality.

20 If you have a video call, you would have  
21 a -- it would look nicer, not so many blurry images. If  
22 you have a packet data transmission or downloading an  
23 app on your smartphone, it would -- would go quicker.

24 And for -- for our customers, the  
25 operators of the world, the benefit for them is, of

1 course, that they can get more -- more users into the  
2 system. They're paying a lot for -- for their Spectrum,  
3 a lot for -- for their -- their -- several billion U.S.  
4 dollars to -- to get the Spectrum.

5 And, of course, we want to use that very  
6 efficiently and help our -- our customers to use that  
7 very efficiently, so -- to get many users in there. And  
8 every bit counts.

9 It's so important that -- that you try to  
10 minimize the number of bits transmitted over the radio  
11 interface between the -- the cell phone and the radio  
12 tower and the -- and the switches in the network.

13 QUESTION: Was there something new about  
14 your approach?

15 ANSWER: Definitely. I mean, we -- we  
16 could give the -- the choice on what content to send  
17 in -- in -- in this retransmission protocol that  
18 would -- would lead to fewer bits being transmitted.

19 And that was something new. And that's  
20 why we got the patents. And that helps you and me and  
21 our customers today to have a better quality and better  
22 performance of the -- the cell -- cellular systems  
23 and -- and the cell phones we use.

24 QUESTION: Is there a particular  
25 technique that permits the choice?

1                   ANSWER: Yeah. I think we talked about  
2 that a lot. And -- and -- we talked about this -- this  
3 type identifier field. That's really the -- the -- the  
4 key element here, giving you the choice of -- of using a  
5 bit map or a list or a -- or a combination thereof.

6                   And that would -- would ultimately lead  
7 to -- to less bits being transmitted, more capacity,  
8 more users simultaneously using the -- the -- the system  
9 we're building and better quality, better performance  
10 for -- for you and me as users of -- of the system.

11                  QUESTION: Had anybody used a type  
12 identifier field before you?

13                  ANSWER: No.

14                  ATTORNEY: Objection to form.

15                  QUESTION: And what did you do to see  
16 that your invention would work?

17                  ANSWER: I think we -- we tried the  
18 approach out on different scenarios and -- and different  
19 types of -- of cases. We -- we looked at it  
20 theoretically and potentially also using advanced  
21 simulations.

22                  We -- we submitted parts of the invention  
23 to -- to 3GPP, the standardization community, to get --  
24 to get feedback from -- from other companies and -- and  
25 it proved to be a very popular idea that ultimately made

1 it into the standards specification.

2 QUESTION: Can you tell me about the  
3 process of submitting a proposal to 3GPP and how that  
4 gets put into a standard?

5 ANSWER: Yeah. There -- at the time,  
6 there were very many companies -- I think it was on the  
7 order of 50 or more -- from all over the world. As I  
8 told, the global -- first global standard. A lot of  
9 delegates going, on the order of hundreds of people from  
10 all these companies.

11 And all companies submit contributions.  
12 It's about the best ideas winning. And the best ideas  
13 go -- go into the spec. And it's -- it's a lot of  
14 discussions, a lot of debate about the merits of the  
15 different contributions and proposals, and ultimately,  
16 the best proposals go into the specs.

17 So we're really proud of -- of our -- our  
18 idea ultimately ending up in the global 3GPP  
19 specification. That -- that helps us all to communicate  
20 using our cell phones.

21 QUESTION: And are you proud of your  
22 invention?

23 ANSWER: I'm -- I'm really proud. And  
24 this is -- this is something I -- I -- I'm happy to tell  
25 my kids about. And -- and -- being an inventor and

1 getting a patent, that's -- yeah, it's really, really  
2 fantastic.

3 QUESTION: Do you know what a block  
4 acknowledgment message is --

5 ANSWER: No.

6 QUESTION: -- in the context of 802.11?

7 ANSWER: No, I don't.

8 QUESTION: Do you know who contributed  
9 the block acknowledgment technique in the 802.11 --

10 ANSWER: No.

11 QUESTION: -- standard?

12 ANSWER: No, I don't.

13 QUESTION: Do you have sufficient  
14 knowledge of the 802.11 standard to testify as to  
15 whether the 802.11 standard infringes the '215 patent?

16 ANSWER: No, I don't.

17 QUESTION: Have you ever read the --

18 ANSWER: No, I don't.

19 QUESTION: Have you ever read the 802.11  
20 standards?

21 ANSWER: No, I have not.

22 QUESTION: Have you ever attended an  
23 802.11 standards meeting?

24 ANSWER: No, I have not.

25 QUESTION: Have you ever submitted a



1 contribution to the 802.11 standard?

2 ANSWER: I have not.

3 (End of video clip.)

4 THE COURT: All right. Who will be next?

5 MR. CAWLEY: One more deposition, Your  
6 Honor.

7 Next you will see the video deposition of  
8 Stefan Wager. Mr. Wager is an engineer at Ericsson and  
9 a named inventor on the '223 patent.

10 Ericsson has designated 10 minutes,  
11 42 seconds of testimony, and Defendants have designated  
12 6 minutes and 11 seconds for about a 15-minute  
13 deposition.

14 THE COURT: All right. Thank you. You  
15 may proceed.

16 (Video playing.)

17 QUESTION: Good afternoon, Mr. Wager.

18 ANSWER: Good afternoon.

19 QUESTION: Can you introduce yourself to  
20 the jury today?

21 ANSWER: Sure. So my name is Stefan  
22 Wager. I was born in Oslo. I grew up in Sweden. And  
23 since I was eight years old, I've been living in  
24 Finland.

25 I graduated from the University of

1 Finland. That was the technical university of Helsinki.  
2 And I started electrical engineering there. And I got a  
3 Master's of Science degree from there with the highest  
4 note, and the topic was on MAC protocols for a  
5 second-generation mobile system.

6 QUESTION: Highest note, what does that  
7 mean?

8 ANSWER: Well, we get the notes for the  
9 thesis that we write, and I got a 5 for that one, which  
10 was the highest note.

11 QUESTION: So that's like an A plus in  
12 the United States.

13 ANSWER: Yes.

14 ATTORNEY: Object to form.

15 QUESTION: Out of curiosity, how many  
16 languages do you speak?

17 ANSWER: I speak Swedish -- that's my  
18 mother tongue -- Finnish, English, and German, and a  
19 little bit of French.

20 QUESTION: That's a lot more than me.  
21 What do you do at Ericsson?

22 ANSWER: I joined Ericsson in 1996,  
23 directly after my thesis. And in Ericsson, I have  
24 worked since then in different positions. I started out  
25 with product development. Then I joined Ericsson

1 research. And in research, I've been working with 3G  
2 and 4G systems, all-in-one systems.

3 QUESTION: Can you set the stage for how  
4 you came up with your invention?

5 ANSWER: Yes. So Reiner Ludwig was  
6 working on different transport layer protocols, and he  
7 was looking into realtime applications. And I can give  
8 an example of a realtime application so you can relate  
9 to something. For instance, Skype or doing it --  
10 telephone service. That's one -- one example.

11 And we realized that the radio link layer  
12 was not really optimized for these kind of services. So  
13 on the one hand, you had a mode where you do no  
14 transmissions -- retransmissions at all. And on the  
15 other hand, you have the mode where you do  
16 retransmissions until the link fails.

17 So we started looking to what could we do  
18 somewhere in between a bit smarter. And that's when we  
19 came up with this having a timer to monitor this  
20 retransmission process.

21 QUESTION: So what specifically was the  
22 problem you were trying to solve between those existing  
23 systems and your invention?

24 ANSWER: Yeah. Let me try to illustrate.  
25 In mobile communications, we have a wireless link, and



1 benefit of your invention in one of those real-life  
2 examples?

3                   ANSWER: Well, in the example of the  
4 tunnel. As soon as you come out of the tunnel and you  
5 get the connection up again, you will be ready to go;  
6 instead of having a long series of (noise), it will just  
7 be a bleep, and then you're up and running again.

8                   QUESTION: How about a video example?

9                   What would a user perceive as the benefit  
10 of your invention?

11                  ANSWER: A shorter delay after the link  
12 has been up and running again.

13                  QUESTION: So what would a user see if  
14 they were looking at that video?

15                  ANSWER: In our case?

16                  QUESTION: Yeah.

17                  ANSWER: The screen would have gone black  
18 when you have no connection, right? Because you don't  
19 have any connection. But as soon as the connection  
20 comes up again, the picture is back.

21                  QUESTION: And what would the existing  
22 solutions have done at the time?

23                  ANSWER: Picture would go when you go  
24 into the tunnel, and then when you come out of the  
25 tunnel again, you see the old picture that was a couple

1 of seconds old, and you would have this delay on the  
2 link, and the conversation would be pretty hard.

3 QUESTION: Let's go back to when you  
4 first finalized the idea that became your invention. Do  
5 you remember when that was and what you were doing?

6 ANSWER: Yes. This was a long time ago,  
7 so it's hard to give an exact date, but it was in the  
8 autumn of '98.

9 Reiner Ludwig came to Ericsson research  
10 here in Stockholm. I was working here at the time. And  
11 he gave a presentation on TCP. And after this  
12 presentation, he came to my office and we started to  
13 talk about this realtime application, how we could  
14 optimize a link layer for these applications. And that  
15 is when this work started.

16 QUESTION: Do you remember where you were  
17 when you finished thinking up the full idea that became  
18 the patent invention in the '223 patent?

19 ANSWER: Yeah. This being a long time  
20 ago, I only have certain memory, glimpses of it, like is  
21 usually the case, but I have one clear memory, and that  
22 was, I think, the final piece of the invention that we  
23 had been working on. Because we had this idea of having  
24 a timer for each SDU.

25 But when I discussed with my development

1 guys, they were saying: Ah, that's going to be tough to  
2 implement. We have a lot of these packets in the  
3 buffer, and we have the timer running for each one of  
4 them. That's not nice.

5                   So then we had to think of something.  
6 And I was working from home, and I was sitting at the  
7 kitchen table, and I was drawing and trying to see the  
8 timers, could we do it somehow differently. And that is  
9 when I come up with this two-timer solution that we  
10 have -- that we have in the invention.

11                   THE REPORTER: That we have what?

12                   ANSWER: That we have in the invention.

13                   QUESTION: You said you were drawing.

14                   Did I hear that correctly?

15                   ANSWER: Yes.

16                   QUESTION: What did you draw?

17                   ANSWER: Just a figure on that -- just  
18 Figure 5 in the patent application.

19                   QUESTION: Were you excited when you --

20                   ANSWER: Yes. I was really excited,  
21 because this -- as I said, this was the final objection  
22 that I had from my colleagues doing an implementation.

23                   And when I finally solved it, I went back  
24 the next day and said: Hey, I solved it. Here, we can  
25 do it. They were all happy.

1                   QUESTION: Have you applied for many  
2 patents since the '223 patent?

3                   ANSWER: Yes.

4                   QUESTION: Approximately how many?

5                   ANSWER: I don't have the exact figure,  
6 but between 80 and 100.

7                   QUESTION: Do you recall where the '223  
8 patent falls in that 80 to 100?

9                   ANSWER: Yeah. That's the interesting  
10 part. This was actually my first patent.

11                  QUESTION: Your very first experience?

12                  ANSWER: Yes.

13                  QUESTION: All right. So if I just look  
14 back here, since joining Ericsson, your work has focused  
15 on 3G or 4G cellular research; is that right?

16                  ANSWER: Yes.

17                  QUESTION: Okay. Did you -- have you  
18 ever done any work on 802.11?

19                  ANSWER: No.

20                  QUESTION: Okay. And when -- what is  
21 unique about -- what -- in your patent about the  
22 initial -- the timing of -- the initialization of the  
23 timer or when the timer's initialized? What is unique  
24 about that?

25                  ANSWER: It was that we had the timers



1 started when the data enters the data link layer.

2 QUESTION: Has Ericsson ever honored you  
3 or Mr. Ludwig for your contributions in the '223 patent?

4 ANSWER: On this specific patent?

5 QUESTION: Yes.

6 ANSWER: Not that I recall, no.

7 QUESTION: Okay. And has anyone outside  
8 of Ericsson ever praised you or Mr. Ludwig for the ideas  
9 of the '223 patent?

10 ANSWER: No. Not that I remember, no.

11 QUESTION: Okay. And then the  
12 transmitter would take the service data unit at the data  
13 link layer and package it in PDUs, or protocol data  
14 units, for transmission out to the receiver; is that  
15 correct?

16 ANSWER: It segments the SDU. So it  
17 splits it up in smaller parts.

18 QUESTION: Okay. So I'll rephrase that  
19 using your -- the way that you put it.

20 In connection with your patent and the  
21 cellular systems that you were working on, the  
22 transmitter will take the service data unit, or SDU, and  
23 segment it or, in other words, split it up into smaller  
24 parts to be placed into smaller packet data units, or  
25 PDUs; is that correct?



1 SDUs into one PDU so that the PDU becomes larger than  
2 the SDU.

3 QUESTION: So let's put concatenation  
4 aside and focus on segmentation.

5 The segmenting or segmentation that we  
6 were -- that you're talking about in your patent, that's  
7 splitting up the SDU into multiple PDUs, right?

8 ANSWER: Yes.

9 QUESTION: Okay. Do -- do you have a  
10 belief as to whether your patent is infringed by any  
11 802.11 products?

12 ANSWER: No.

13 QUESTION: Are you familiar with the --  
14 an 802.11n technology called BlockAck?

15 ANSWER: No.

16 QUESTION: Do you know who contributed  
17 the timer in 802.11 to the 802.11 standard?

18 ANSWER: No.

19 QUESTION: Do you know who contributed  
20 the discard functionality in 802.11 to the 802.11  
21 standard?

22 ANSWER: No.

23 QUESTION: The selective repeat ARQ  
24 protocol we talked about earlier, that -- that came  
25 before your patent, right?

1                   ANSWER: Yes.

2                   QUESTION: And that involves use -- usage  
3 of a transmit window and a receive window for the  
4 selective repeat ARQ protocol?

5                   ANSWER: Yes.

6                   QUESTION: Okay. So -- so the use of  
7 windows for transmitting and receiving data packets in  
8 connection with ARQ, that was known before your patent?

9                   ANSWER: Correct.

10                  QUESTION: Segmenting, the concept of  
11 segmentation, that technique, as it's used in  
12 telecommunications, did that come before your patent,  
13 your '223 patent?

14                  ANSWER: Yes.

15                  QUESTION: We talked a little bit earlier  
16 about 3G. Do you remember discussing that?

17                  ANSWER: Yes.

18                  QUESTION: Do you think your '223 patent  
19 would be beneficial to other wireless technologies  
20 outside of 3G?

21                  ANSWER: Yes.

22                  QUESTION: Do you think your patent could  
23 apply to wireless technologies outside of 3G?

24                  ANSWER: Yes.

25                  QUESTION: Mr. Wager, a few moments ago

1 when you were answering questions from your counsel, you  
2 talked about how --

3 ANSWER: Uh-huh.

4 QUESTION: -- you talked about how the --  
5 you talked about the benefit of the invention of your  
6 patent in connection with driving through a tunnel.

7 Do you recall that?

8 ANSWER: Uh-huh.

9 QUESTION: And the example -- is that a  
10 yes? Sorry. You have to answer.

11 ANSWER: Yes.

12 QUESTION: And the example you gave to  
13 demonstrate the benefit of your patent was, if you're --  
14 as a result of your invention, if you're driving through  
15 a tunnel and you're receiving -- when you go into the  
16 tunnel, you're receiving data wirelessly; when you come  
17 out of the tunnel, you would -- you would continue to  
18 receive data wirelessly, and it would pick that data  
19 back up more quickly; is that correct?

20 ANSWER: Correct.

21 QUESTION: Okay. And that's the example  
22 you gave to describe the benefits of your patent.

23 ANSWER: Correct.

24 QUESTION: How many times have you used  
25 Wi-Fi when driving through a tunnel to receive data?

1                   ANSWER: I don't believe I have done  
2 that.

3                   THE REPORTER: I didn't hear you, sir.

4                   THE WITNESS: I don't believe I have done  
5 that.

6                   QUESTION: You've never heard of anyone  
7 using Wi-Fi to receive data when driving a car down the  
8 road, especially through a tunnel?

9                   ANSWER: No, not that I recall.

10                  QUESTION: And it's correct that you have  
11 no idea of how the technologies in 802.11 work; is that  
12 correct?

13                  ANSWER: I know it only to a very basic  
14 level.

15                  QUESTION: Right. You don't know any of  
16 the details of the many specifications that are involved  
17 in 802.11, right?

18                  ANSWER: No.

19                  QUESTION: As you said earlier, you've  
20 never even -- you've never even read them?

21                  ANSWER: Not that I recall, no.

22                  QUESTION: And you certainly don't know  
23 how -- the details of the ARQ protocols in Wi-Fi; isn't  
24 that correct?

25                  ANSWER: That's correct.

1 (End of video clip.)

2 THE COURT: All right. Does that  
3 conclude the offer?

4 MR. CAWLEY: Yes, Your Honor.

5 THE COURT: All right. Who will be your  
6 next witness?

7 MR. STEVENSON: Ericsson calls Dr. Scott  
8 Nettles.

9 THE COURT: All right. Dr. Nettles.  
10 Dr. Nettles, were you sworn the other  
11 day?

12 THE WITNESS: No, Your Honor, I was not.

13 THE COURT: All right. If you will,  
14 raise your right hand to be sworn.

15 (Witness sworn.)

16 THE COURT: All right. You may be  
17 seated.

18 SCOTT NETTLES, Ph.D., PLAINTIFFS' WITNESS, SWORN

19 DIRECT EXAMINATION

20 BY MR. STEVENSON:

21 Q. Good afternoon, Dr. Nettles.

22 A. Good afternoon.

23 Q. Would you please introduce yourself to the  
24 jury.

25 A. I'm Dr. Scott McBride Nettles.

1 Q. And can you tell us what you do for a living,  
2 sir.

3 A. Well, until very recently, I was an associate  
4 professor of electrical and computer engineering at The  
5 University of Texas at Austin. I recently have become  
6 an adjunct professor, and I spend most of time as a  
7 consultant.

8 Q. Okay. Would you tell us a little bit about  
9 what you liked about being a professor?

10 A. Well, I guess the thing I most liked about  
11 being a professor was my students. So as part of your  
12 research as a university professor, you -- you mentor  
13 Ph.D. students. You -- they help you do your research,  
14 and eventually, they do a doctoral dissertation under  
15 your supervision. And I don't know. I don't have any  
16 children, but it's kind of like having 11 children.

17 Q. Okay. What was the focus of your research at  
18 UT?

19 A. Most recently, it's been wireless networking  
20 and specifically building experimental systems, which  
21 really they're 802.11n systems that work very much like  
22 the systems we're going to talk about in this court  
23 case.

24 Q. Can you tell us just briefly a little bit  
25 about the experimental systems that are like the 802.11



1 ones that you've built?

2       A. Yes, sir. We've been interested -- along --  
3 my colleagues and I have been interested in the question  
4 of if you -- if you're interested in the question of how  
5 certain parts of the network interact.

6               So in particular, the physical layer, which is  
7 the radio part, and then the MAC layer, which is really  
8 what we're mostly going to talk about here in the next  
9 week or so, how they interact.

10              And so what we've done is, we've built an  
11 experimental system where we've implemented both the  
12 physical layer and the MAC layer in software, and we can  
13 study what happens when we implement protocols where the  
14 physical layer and the MAC layer work together very  
15 closely.

16              And I think part of what's interesting about  
17 what we've done is that we built a real system that  
18 actually has radios in it. It really transmits over the  
19 air. And we were able to build whole networks of  
20 these -- of these nodes and do real-world experiments  
21 instead of just simulations.

22       Q. Well, in awhile, I'm going to ask you to teach  
23 us about physical layers and MAC layers, but I'll hold  
24 off on that for now and move on to a little bit about  
25 you.

1           Have you written any books on networks?

2           A.    Yes, sir.  I've been involved in editing books  
3 on networks.

4           Q.    And have you written professional papers?

5           A.    Yes, sir.  That's an important part of my --  
6 my -- been an important part of my job.

7           Q.    And ballpark, about how many?

8           A.    65, 70 professional papers.

9           Q.    Your research that you do on wireless  
10 networks, is that typically funded by outside interests?

11          A.    Yes, sir.  It's funded both by industry and  
12 also by the National Science Foundation and sometimes by  
13 DARPA.

14          Q.    Okay.  Well, take me back to how you first  
15 became interested in being a computer engineer.

16          A.    Originally, I studied chemistry.  That was my  
17 interest.  And when I went to graduate school in  
18 chemistry, I was studying theoretical chemistry.  And  
19 that involved doing a lot of computer programming,  
20 working with computers a lot.  And I found that I  
21 enjoyed the computer part more than I enjoyed the  
22 chemistry part.

23               And so at a certain point, I decided to quit  
24 graduate school in chemistry and become a computer  
25 programmer.

1 Q. Okay. Well, tell us where you grew up,  
2 Dr. Nettles.

3 A. I grew up in a small town in South Alabama  
4 called Andalusia, Alabama.

5 Q. And what did your parents do?

6 A. My parents are teachers. My father was the  
7 local band director. And when I was little, my mother  
8 taught high school English. But most of my life, she  
9 was the local dance teacher. So she had a dance school.

10 Q. Okay. Can you go through for us your  
11 educational background, please.

12 A. I went to high -- well, actually, to all  
13 schools, but including high school in Andalusia. And  
14 then I went to Michigan State University as an  
15 undergraduate where I studied chemistry.

16 Then I went to Stanford as a Ph.D. student in  
17 chemistry for three years. Then I worked for about four  
18 years, and then I went to Carnegie Mellon University  
19 where I earned my Master's degree and my Ph.D.

20 Q. In what -- what --

21 A. In computer science.

22 Q. Okay. And then after you got out of Carnegie  
23 Mellon with your Ph.D., what kind of work experience did  
24 you have?

25 A. Well, after that, I became a college

1 professor.

2 Q. Okay.

3 A. I first worked at the University of  
4 Pennsylvania.

5 Q. All right. And when did you start doing  
6 expert consulting work?

7 A. Well, the first time I was retained was in  
8 2005, but I think the first time I was ever seriously  
9 involved in a case was in 2007.

10 Q. Was that involving patent cases?

11 A. Yes, sir.

12 Q. Computer stuff, technology?

13 A. Yes, sir. The -- the -- the first big case  
14 actually involved cable modems.

15 Q. Okay. And would you explain to us what it  
16 entails for you to be retained as an expert in a patent  
17 case and how you go about doing your work.

18 A. Well, when you're retained in a patent case,  
19 you're retained either by the plaintiff or the  
20 defendant, and they want you to analyze the patents and  
21 the products that are involved in the lawsuit for --  
22 both for infringement and also to figure out whether or  
23 not the patents are valid.

24 Q. Okay. Have you testified in court in patent  
25 trials before?

1 A. I have.

2 Q. Are you always retained by plaintiffs?

3 A. No, sir. I work for both the plaintiffs and  
4 the defendants.

5 Q. And what conclusions did you reach in this  
6 case?

7 A. In this case, I reached the conclusion that  
8 the five patents-in-suit are infringed and also that  
9 they're valid.

10 Q. And are you going to explain, over the course  
11 of the next several hours, how you reached your  
12 conclusions and walk us through your analysis?

13 A. Yes, sir. That's exactly what I'm going to  
14 do.

15 Q. And before we get into that, I'd -- just so  
16 it's clear, are you being retained and compensated for  
17 your time in this case?

18 A. Oh, yes, sir, absolutely.

19 Q. At what rate?

20 A. \$450 an hour.

21 Q. Before we get into the details of the patents,  
22 I'd like to ask you to give us a tutorial, please, on  
23 wireless networks.

24 A. Okay. I can do that.

25 Q. And I understand that you've put together a

1 video animation that might help us understand some of  
2 the concepts that we're going to need to know to then  
3 get into the patents and understand the patents.

4 A. Yes, sir, that's correct.

5 Q. All right.

6 MR. STEVENSON: So can we please bring up  
7 that tutorial?

8 Q. (By Mr. Stevenson) All right. Tell us what  
9 we're seeing here, Dr. Nettles.

10 A. Well, this is a picture of a wireless network.  
11 And in the upper left-hand corner, we see something  
12 called a base station.

13 Q. What is -- what is that base station?

14 A. Well, the base station is the device that  
15 forms the wireless network but also connects to the  
16 wired network.

17 So the most familiar kind of base station to  
18 most people would be a router, and it would typically  
19 connect to your cable modem or your DSL connection. And  
20 you can see the little wire that's connects to the wired  
21 network there.

22 Q. So that would be like one of these type of  
23 routers that you would buy?

24 A. Yes, sir, exactly.

25 Q. Okay. Like a NETGEAR or a D-Link or a Belkin?

1           A.    Those are all good examples of router vendors,  
2   yes, sir.

3           Q.    And so when you get it out of the box, what's  
4   that little wire you plug it into in the back?

5           A.    Well, that would typically be your cable modem  
6   or your DSL connection.

7           Q.    Okay.  And many of us probably have done that.  
8   You plug your Internet into the back of your wireless  
9   router and that lets it go around your house wirelessly?

10          A.    Exactly.

11          Q.    Now let's look at the terminals at the bottom.  
12                 What are those?

13          A.    Well, those are the devices that the base  
14   station is going to communicate with.  So those would be  
15   laptops or even desktops.  They might be phones.  They  
16   might be tablets.

17                 These days other devices are connecting  
18   wirelessly.  So televisions, thermostats.  I've even  
19   seen a scale like you weigh yourself on that connects  
20   wirelessly.

21          Q.    All right.  And the base station, does it have  
22   a radio unit in it?

23          A.    Yes, sir.  Both the base station and the  
24   terminals are two-way radios.

25          Q.    And those black things, I assume, are the

1 antennas for the radio?

2 A. Yes, sir, they are exactly that.

3 Q. And let me ask you this: Are there any  
4 comparisons you can draw between this type of network,  
5 which we've characterized as being a home wireless  
6 network, and a cellular network?

7 A. Yes, sir. The architectures are slightly  
8 different; but as we've depicted it here, quite similar.  
9 But because they're going to be communicating data  
10 across the -- the radio waves, a lot of the problems are  
11 very similar.

12 So the problems that we see in cell networks  
13 for communicating data are often the same problems that  
14 we see in -- in wireless LANs.

15 Q. Let's start the animation sequence, and I  
16 think this plays -- yes, it does. I'm assuming these  
17 are radio waves?

18 A. Yes, sir. They're an animation of radio  
19 waves.

20 Q. I'm curious. When -- let's go back to the  
21 home network example when you've got your NETGEAR router  
22 or your D-Link router or your Belkin router sitting in  
23 your closet, let's say, and you might have several  
24 computers, or if you're at my house, you know, the kids  
25 with a tablet.



1           Do -- does everything have to talk to the  
2 router, or can the terminals talk in between each other  
3 and just have a private conversation?

4           A.    In the architectures that we're using right  
5 now, the conversations go from the terminals to the  
6 router and from the router to the terminals.

7           Q.    And what happens if people talk at the same  
8 time on this network -- the -- the devices?

9           A.    Well, that creates radio interference; and as  
10 everyone knows, when radios interfere, it's hard to  
11 understand. So that would typically create errors if  
12 they were talking simultaneously.

13          Q.    So everybody has to take a little turn?

14          A.    That's exactly correct.

15          Q.    Now, we've been talking a lot in this case so  
16 far about -- or at least a little bit about packets.  
17 Remember, I talked about them in opening.

18                Can you tell us what a packet is?

19          A.    A packet is really just a fixed quantity of  
20 information that computer networks use to communicate  
21 with.

22          Q.    Is it just these kind of computer networks  
23 that use packets, or is it other kinds of computer  
24 networks?

25          A.    Well, they're the fundamental basis of the

1 entire Internet and of computer networking in general.

2 Q. Cellular, too?

3 A. Cellular, too, yes, sir.

4 Q. Why?

5 A. One of the easy-to-understand reasons is that  
6 if you break the information up into relatively small  
7 pieces, it makes it easier to share.

8 Remember, we talked about how things could  
9 interfere with each other. If we break it up, then it's  
10 easy to allow, for example, terminal 1 to speak for a  
11 little while, then terminal 2, then terminal 3, then  
12 maybe the base station. It makes it easy to share this  
13 communication mechanism.

14 And that's really one of the fundamental  
15 reasons for using packets.

16 Q. So -- so one of these terminals that has a lot  
17 to send can't hog it all?

18 A. That's exactly right.

19 Q. Try to spread it around?

20 A. Yes, sir.

21 Q. Well, what -- what happens if, let's say, one  
22 of these terminals has a lot of information to send,  
23 like, let's say, it's a picture?

24 A. Okay.

25 Q. You know, like a big high-resolution picture

1 you took of, you know, your kids, and you're trying to  
2 send it out over the Internet. How does that happen  
3 without the terminal doing it, hogging all the airwaves?

4 A. Well, if we had a picture that had a lot more  
5 information in it than would fit in one packet -- let's  
6 actually just think about it as being a real picture.

7 What we would literally do is, we would tear  
8 that real picture into pieces, say nine pieces, and we  
9 would label those pieces, upper left-hand corner, upper  
10 middle, and then we'd put each piece of the picture into  
11 its own individual envelope, and we would address that  
12 individual envelope.

13 Q. And then who do you -- who do you send the  
14 nine envelopes to?

15 A. Well, you send -- you send the nine envelopes  
16 to whoever the receiver is. And when they get the nine  
17 envelopes, they open the envelopes, and they take out  
18 the piece of the picture, and they put the one that's  
19 labeled upper left-hand corner in the upper left-hand  
20 corner and upper -- middle upper in the upper, and they  
21 reassemble the picture.

22 Q. And so does that carry over into the  
23 electronic world where this tearing up of large chunks  
24 of data into packets happens electronically?

25 A. Yes, sir, except you might tear it up into

1 thousands or millions of packets.

2 Q. Okay. Can we show some packets on your  
3 animation?

4 A. We can.

5 Q. Okay. What are the blue dashes that are now  
6 replacing the radio waves?

7 A. Well, they're our visual representation of  
8 packets.

9 Q. Are these packets -- are they actually carried  
10 on the radio waves?

11 A. Yes, sir. The radio waves actually digital --  
12 the digital information is encoded into radio, and  
13 that's what the radio part of these networks do, is to  
14 send the packets digi -- by radio.

15 Q. These aren't replacing radio waves; they're  
16 just sort of a logical way we can think about how the  
17 information is going along?

18 A. Yes, sir. There's really radio waves  
19 underneath all of this.

20 Q. Okay. Are packets different sizes?

21 A. Typically, yes, sir, they are.

22 Q. What's inside a packet?

23 A. Well, there's a lot of different information  
24 inside of packets, but remember I mentioned this idea  
25 that we would put an address on the envelope.

1           So packets invariably have addresses, and then  
2 they invariably have -- well, they typically have data,  
3 so...

4           I think we have a blow-up of this maybe.

5       Q.    Right. That's the one that's been flashing.

6           All right. Just so we know what we're looking  
7 at, what is the zoom-out that's in the blue box?

8       A.    It's showing us that one of these packets has  
9 two compartments. One compartment holds the address.  
10 And in this case, it's video data that's being held  
11 there. We call these compartments typically fields  
12 rather than compartments.

13       Q.    And in the real world -- I know this is a  
14 simplification as we're going to get into the case -- do  
15 packets have more than one or two fields?

16       A.    Yes, sir. They have many fields, typically.

17       Q.    Now, if we looked at that packet that says  
18 video data, would we expect to get the whole video or  
19 just a piece of it?

20       A.    For a video, it would be typically a very  
21 small piece.

22       Q.    And how -- how fast are these packets going?

23       A.    Well, conservatively, hundreds of times a  
24 minute. In practice, maybe thousands or tens of  
25 thousands times a minute.

1 Q. And then they get transmitted at the speed of  
2 light, obviously.

3 A. They're on the radio, so that's how fast they  
4 move through the radiofrequency, yes, sir.

5 Q. Now, we hear a lot today about bandwidth. Can  
6 you explain to us about bandwidth and what it is?

7 A. Bandwidth is just the amount of information  
8 that can be transmitted at any one time. So how many  
9 words can people say a minute? How many packets can be  
10 sent a second? It's usually expressed in terms like  
11 bits per second or bytes per second or packets per  
12 second.

13 Q. What -- what limits bandwidth?

14 A. Well, ultimately, in a -- in a radio-based  
15 network like this, the laws of physics limit the amount  
16 of bandwidth that's available.

17 Q. What law of physics is it that limits  
18 bandwidth?

19 A. Well, it has to do with the number of bits  
20 that you can transmit per hertz of frequency. It's a  
21 little complicated.

22 Q. Well, I mean, if that's the case, why have  
23 cell phones and home networks gotten faster over the  
24 years?

25 A. That's because we're just really learning how

1 to build these kind of radio-based networks. And so we  
2 haven't approached the limits that physics imposes.

3           Instead, what's happening is, every -- well,  
4 really probably even every month, engineers and  
5 physicists and computer scientists are learning how to  
6 build these networks better and better so that they come  
7 closer and closer to the physical limits.

8           Q. Do those have to do with the rules of the  
9 networks and the protocols that you use?

10          A. Ultimately, improving the rules can definitely  
11 improve the utilization and how close we get to those  
12 limits, yes, sir.

13          Q. Let's keep going with the animation.

14                 And now we see some red packets that have  
15 gotten introduced. What are those?

16          A. Well, those are control packets. So in  
17 addition to the packets that carry the actual real data,  
18 we have to send some packets back and forth just to make  
19 the network work; information that the sender and  
20 receiver needs to send back and forth to keep in sync.

21          Q. And the first part of the animation that was  
22 all just blue packets, now red packets have come in, but  
23 in the real world, are there always these red packets  
24 with control information being sent around?

25          A. Yes, sir, there are.

1 Q. But the data, the stuff you really want, is  
2 that in the red packets, or is that in the blue packets?

3 A. It's in the blue packets.

4 Q. So to get better network performance, what is  
5 your goal, as far as the size of the red packets and how  
6 often you send them out?

7 A. You'd like to make the red packets as small as  
8 possible, and you'd like to send them out as  
9 infrequently as possible.

10 Q. Now, how does this all stay organized? How do  
11 all the receivers and the transmitters know when to talk  
12 and what to send and how to interpret what they're  
13 getting?

14 A. Well, there's -- there's a rule book, as we've  
15 been discussing.

16 Q. Is that the standard?

17 A. Yes, sir, that's the standard. That's  
18 basically a blueprint for how this kind of network is  
19 going to work.

20 Q. Do all the devices have to have the same  
21 blueprint or rule book?

22 A. Yes, sir, they do.

23 Q. And what if they don't?

24 A. Well, they -- they won't be able to  
25 communicate successfully.



1 Q. How do the devices on the network know the  
2 rules?

3 A. Well, I mean, these aren't people. They can't  
4 really know anything. So really the engineers and  
5 computer scientists that work for the companies have to  
6 build them so that they follow the rules. So they're  
7 programmed really to follow the rules.

8 Q. So we saw that standard before. Is drafting  
9 the standard the end of it, or do you then have to  
10 program the standard into the devices?

11 A. Drafting the standard is the beginning of it.  
12 Putting them into the devices is perhaps the hard part.

13 Q. Do the inventions in this case deal with what  
14 the rules should be for a network?

15 A. Yes, sir, they do.

16 Q. And how detailed are those rules?

17 A. The -- the rules have to be detailed enough  
18 that if you follow them and someone else builds a system  
19 that also follows them, they'll be able to communicate  
20 successfully. They'll have to be using the rules in the  
21 same way. So they're -- they're quite detailed.

22 Q. I've got here the 802.11n 2007 standard  
23 version.

24 A. Yes, sir.

25 Q. It's --

1           A.    I have one here, too. This is the 2007 one.

2           Q.    And I was going to ask you -- I forgot --  
3 you've got some binders in front of you in a cart. What  
4 are those?

5           A.    Those are the reports that I've written in  
6 this case.

7           Q.    You -- the reports about infringement and the  
8 patents?

9           A.    Yes, sir, they are.

10          Q.    So that's -- that's your work, so you have it  
11 to refer to during the questioning?

12          A.    That's correct.

13          Q.    And then you've got a copy, I assume, of the  
14 802.11 standard in front of you?

15          A.    Yes, sir, both the 2009 and then the -- and  
16 the 2007 version.

17          Q.    Why -- and this may be a very obvious  
18 question, but why does this need to be so long and  
19 elaborate?

20          A.    Well, it has to specify everything about these  
21 systems so that you can build one and so that they can  
22 interoperate.

23                So this standard, for example, contains  
24 everything about how the radios have to work and then  
25 also everything about how -- what I've referred to as

1 the MAC layer, the media access control layer, how it  
2 has to work.

3 So there's just a lot of details to build a  
4 very complicated engineering system like this.

5 Q. Is that standard publicly available?

6 A. Yes, sir.

7 Q. Anybody can download it?

8 A. Yes, sir.

9 Q. And if you're a company and you download that  
10 and build a device according to it, follow it, what  
11 should your expectation be?

12 A. If you follow it faithfully, you should be  
13 expected -- you should expect to be able to interoperate  
14 with other people who have built -- who have built  
15 devices that follow the standard faithfully.

16 Q. Now, I want to talk a little bit about -- now  
17 that we've gotten the concepts out, I want to put  
18 Ericsson's inventions into this concept of these.

19 A. Okay.

20 Q. I want to talk about the patents in the case  
21 and what aspects of the network they touch upon.

22 Can you tell us at a -- just a high level, and  
23 then we'll get into specifics, what aspects of the  
24 network Ericsson's patents pertain to?

25 A. Well, they -- they touch really eventually on

1 every aspect of the media access control levels, so both  
2 the sending and receiving of data, how we make the data  
3 reliable, how we deal with data which needs to have  
4 different characteristics with respect to delay. All of  
5 those aspects are part of the patents.

6 Q. What I'd like to ask you to do is, let's go  
7 through a -- let's make up a hypothetical transmission  
8 from a base station to a terminal, terminal 4, and walk  
9 through that, and let's just talk about where Ericsson's  
10 inventions come into the mix.

11 A. Okay.

12 Q. And then we'll use that as a -- segue later to  
13 go on when we talk about the patents as a reminder  
14 for -- for -- to keep us oriented on what we're doing.

15 So let's pretend we're streaming video from  
16 the Internet to a terminal.

17 A. Okay.

18 Q. So let's just start at the beginning.

19 Where is the Internet coming into the system?

20 A. It's coming in through the little black wire  
21 that we see attached to the base station.

22 Q. All right. And -- and is it coming in as  
23 packets there, too, or is it something different?

24 A. It's going to be packets.

25 Q. Okay. When it gets to the base station, what

1 does the base station do?

2 A. It's going to transmit those packets to  
3 wherever they eventually go to; in this case, to  
4 terminal 4.

5 Q. Does it just pass them right through, or does  
6 it rearrange them somehow?

7 A. It depends a little bit. They could do either  
8 one of those two things.

9 Q. Okay. Then the base station converts them  
10 into radio?

11 A. Yes, sir.

12 Q. And then when the radio waves get sent out,  
13 are they just heard by terminal 4 or all the terminals  
14 hear?

15 A. So they're -- because it's radio, it's  
16 broadcast. And so, in fact, all the terminals will hear  
17 the broadcast from the base station.

18 Q. Now, how does the base station -- so we're  
19 pretending the base station is sending video to the  
20 terminal?

21 A. Yes, sir.

22 Q. And then the terminal is, let's say, you know,  
23 you're sitting at your kitchen table having a video  
24 stream to you.

25 A. Okay.

1 Q. Sitting there, video streaming to you, coming  
2 from the router that's maybe two moves away.

3 A. Okay.

4 Q. We talked in opening a little about lost  
5 packets and that sort of thing. Does that happen in  
6 these sort of systems?

7 A. Oh, yes, sir. Losing packets is common.

8 Q. What causes packets to get lost?

9 A. Well, there could be interference. You might  
10 turn on your microwave oven. Maybe you've got your base  
11 station too far away from where you're trying to watch  
12 the video. All of those things could cause packets to  
13 be lost.

14 Q. Bouncing off walls and that kind of thing?

15 A. Yes, sir.

16 Q. Okay. And how does the base station then,  
17 who's sending the video to the terminal, know if packets  
18 are getting lost and which ones they are?

19 A. Well, it asks the terminal which packets it's  
20 received.

21 Q. Okay. Can we show that on the...

22 A. We can. It's one of these are control  
23 packets.

24 Q. One of the red ones that carries the question?

25 A. That's right. So if we --

1 Q. It stopped, and it's flashing.

2 A. That's right. So the one that's flashing is  
3 the questioner of which ones did you get?

4 Q. Okay. So basically what we're talking about  
5 here is, this red packet isn't actually carrying the  
6 data; it's a way for the base station and terminal to  
7 talk to each other about how things are going?

8 A. Exactly.

9 Q. Okay. Now, what is the base station sending  
10 the video asking the terminal?

11 A. It's asking, did you get everything that I  
12 sent to you since the last time I asked you what you --  
13 what you received.

14 Q. Okay. Let me ask you about this question  
15 before we move on. It asks: Did you get all the  
16 packets in the last group I sent?

17 So can this question be asked about a group of  
18 packets?

19 A. Yes, sir. And in the case that we're looking  
20 at here, that will typically be what will happen. We'll  
21 ask about a bunch of packets all at once.

22 Q. And is the goal of that to have fewer of these  
23 control red packets?

24 A. Yes, sir. Rather than answering for each  
25 packet, we're going to answer for a group of packets at

1 once.

2 Q. All right. Let's go on and see -- does the  
3 terminal answer?

4 A. Yes, sir. It's required to answer by the  
5 rules.

6 Q. And so it doesn't have a choice.

7 A. No, sir, it doesn't.

8 Q. Okay. Let's look at what the answer might be.  
9 What's he responding with?

10 A. Well, in this case, the response says, which  
11 packets were received. But it also tells which packets  
12 weren't received.

13 Q. He got 1, 2, 4, 7, 8, but missed 3, 5, and 6.

14 A. That's right.

15 Q. When we get into the patents, is there -- and  
16 the infringement stuff in the standard, is there a word  
17 that we're going to use to describe this sort of  
18 response message?

19 A. There is. We're going to call it a block  
20 acknowledgment, because it's acknowledging the receipt  
21 of messages, and it's acknowledging the receipt of a  
22 group or block of messages. That's why it's called  
23 block acknowledgment.

24 Q. So what now can the base station now do that  
25 it's learned three of its packets got dropped?



1           A.    Well, it could potentially retransmit those  
2   three packets, so send them again so that the terminal  
3   would -- would receive them. But that's not always the  
4   best thing to do.

5           Q.    Why not?

6           A.    Because in some cases, resending the data  
7   isn't as desirable as just dropping it.

8           Q.    Okay. Will you explain to us, because that  
9   seems a little bit counterintuitive, why that is?

10          A.    Yes, sir. Well, there are certainly some  
11   kinds of data that you want to resend, like things about  
12   your bank statement. But if you're watching a movie --

13          Q.    Not always.

14          A.    Well, okay. But if you're, for example,  
15   watching a movie or having a phone conversation,  
16   resending the packets might cause the movie to pause or  
17   the phone conversation to have a gap in it; whereas, if  
18   you just drop those packets and you didn't resend them,  
19   then all that might happen is, there might be one of  
20   those little kind of glitches you see in the movie. But  
21   that would be a lot better than having a pause.

22          Q.    Is there an Ericsson invention related to  
23   this?

24          A.    Yes, sir. There are two, actually.

25          Q.    And what is -- explain to us the Ericsson

1 invention, how it factors into this. What inventions, I  
2 should say.

3 A. Yes, sir. The inventions really work hand in  
4 hand. They had to do with how the receiver and the  
5 transmitter stay in sync when the transmitter decides  
6 it's going to just drop a packet rather than retransmit  
7 it.

8 So one of the patents has to do with what the  
9 receiver does when the transmitter decides to drop a  
10 packet, and the other one really focuses on what the  
11 transmitter does when it decides to drop a packet.

12 Q. Okay. And what happens if they don't stay in  
13 sync or stay coordinated together?

14 A. Well, the system breaks. For example, I think  
15 we talked about deadlock. That's an example of where it  
16 might dead -- that's the kind of thing that could happen  
17 if they got out of sync, is deadlock.

18 Q. All right. And I don't think anybody thinks  
19 that's a good idea.

20 A. No, sir. We try to avoid deadlock in computer  
21 systems at all cost.

22 Q. So do you -- do there need to be some rules in  
23 this system for how the base station and terminal  
24 coordinate when whichever one is transmitting decides  
25 not to send or retransmit lost packets?

1 A. Yes, sir, absolutely.

2 Q. And, you know, I've been switching back and  
3 forth, and it may be confusing. I've been -- we've been  
4 talking about base stations and terminals, and then I'd  
5 switch over and I talk about transmitter and receiver.

6 Let me just be real clear. All of these  
7 devices can transmit, as well as receive, right?

8 A. Yes, sir. They both play both roles.

9 Q. Okay. So if you're talking about the  
10 transmitter, that's not always the base station.

11 A. No, sir, not at all.

12 Q. I mean, it is in our example.

13 A. In this example that we're looking at, yes,  
14 sir.

15 Q. But it just -- it just depends.

16 I mean, for instance, the terminal may be  
17 streaming video back up to the base station to go out to  
18 the Internet, and then that one is the transmitter.

19 A. Yes, sir, that happens.

20 Q. So what did Ericsson invent in terms of a way  
21 for the base station or, let's say, transmitter,  
22 whichever one it is, and the receiver to stay  
23 coordinated if whoever's transmitting the packets  
24 decides not to retry a dropped packet?

25 A. So let's look at the invention that involves

1 the receiver first.

2 Q. Okay.

3 A. The receiver is keeping a list of packets that  
4 it's expecting to receive, and it's doing that because  
5 sometimes it has to send back those messages that say --  
6 says, I received these, and I didn't receive -- and I  
7 didn't receive these others so that then they can be  
8 retransmitted.

9 And when the transmitter decides to drop a  
10 packet, that list needs to be updated. And so the way  
11 that works is that the transmitter sends a message to  
12 the receiver that contains information about what things  
13 have been dropped.

14 The receiver does a computation to figure out  
15 exactly what's been dropped. And then it releases the  
16 expectation that it's going to ever receive those.  
17 It -- it forgets about those packets, essentially.

18 And now it's never -- once that's happened,  
19 it's never going to ask for them again, because it knows  
20 that the transmitter's never going to send it again.

21 Q. And -- and what you talked about there, this  
22 keeping a list and computing and releasing expectations,  
23 are those things left up to the whim of whoever's  
24 building the terminal, or are they part of that standard  
25 book and part of the blueprint for the devices?

1           A.    They're part of the blueprint.

2           Q.    So we said there were two Ericsson inventions  
3 related to this -- you know, keeping the receiver and  
4 transmitter coordinated or in sync. I'm using those  
5 synonymously. You just told us what the receiver is  
6 doing on its side. What does the other invention  
7 pertain to?

8           A.    The other invention is focused on the  
9 transmitter and on the kind of messages that the  
10 transmitter sends to the receiver.

11                   And in that invention, when the transmitter  
12 decides that it's going to drop a packet rather than  
13 retransmit it, it needs to do two things.

14                   It needs to send a command to the receiver to  
15 receive a packet that's out of order, and it also has to  
16 send a command to the receiver to -- well, it's similar  
17 to this release expectations idea; basically to move the  
18 set of frame -- the set of packets it's expecting so  
19 that it's no longer expecting the ones that are before  
20 the one that's out of order.

21                   So that's the ones that haven't been received.  
22 The whole point is to deal with the fact that certain  
23 ones haven't been received without forcing the system to  
24 continue to wait for that one to be retransmitted, to --  
25 to move along.

1           Q.    Okay.  And I know these are hard concepts to  
2 explain.  We're going to get, I think, a little bit of  
3 repetition here.  As we go into the patents, I think  
4 we'll talk about this again on each individual patent.  
5 So this isn't our only chance to learn all this.  But  
6 let me go back to your last answer.

7                   Basically, the transmitter has got to go ahead  
8 and tell the receiver what it's doing so the receiver  
9 can deal with its list and computations.

10                   MR. VAN NEST:  Objection.  This is  
11 leading, Your Honor, with an expert, and that's not  
12 appropriate.

13                   THE COURT:  Overruled.

14           A.    Yes, sir, exactly.  In fact, in the patent we  
15 were just talking about, it just -- it doesn't just tell  
16 the receiver; it actually sends commands.

17           Q.    (By Mr. Stevenson) Okay.  Now, can these  
18 packets in the network carry different types of  
19 information?

20           A.    Yes, sir.

21           Q.    What types of information might they carry?

22           A.    Well, we've been talking a lot about video,  
23 but we've also talked some about voice, and obviously,  
24 they're going to carry just regular data:  Web pages,  
25 your e-mail, that kind of information.

1           So those are three sort of especially  
2 important kinds of information.

3           Q.   Does having three different types of  
4 information, or maybe even more, cause any additional  
5 issues in the rules of the network?

6           A.   Well, yes, sir.  These different kinds of  
7 information might tolerate delay differently, and you'd  
8 really like to set up the rules of the network so that  
9 you can accommodate that.

10          Q.   What do you mean when you say tolerate delay  
11 differently?

12          A.   Well, let me give an example.

13                If you think about your e-mail, doesn't really  
14 matter if your e-mail comes this instant or in  
15 10 seconds or in 30 seconds or even a minute later.  
16 It's not very sensitive to mail -- to delay.

17                But imagine having a phone conversation where  
18 every time someone says a word, there's a delay of even  
19 half a second.  It would be almost impossible to have a  
20 phone conversation under that circumstance.

21                And so for phone conversations, delay is very  
22 important.  For video, it's not quite as important as  
23 for phones.  And for a lot of data, you know, you don't  
24 want your e-mail to be two days late, but two seconds  
25 late is fine.

1           Q.    What kind of things can cause delays like that  
2   in a network?

3           A.    Imagine -- we talked a little bit about  
4   bandwidth.  Imagine that one of these terminals wants to  
5   send more information per minute than there is bandwidth  
6   to do it.

7                   Then, you know, just like in the grocery store  
8   where there's a line and a queue, and you have to wait  
9   for the checker; there are queues in these terminals and  
10  base stations, and things have to wait in those queues,  
11  and that can cause delays.

12          Q.    Is there an Ericsson invention related to  
13  dealing with different types of data on the network?

14          A.    Yes, sir, there is.

15          Q.    What's that invention?

16          A.    That involves -- the key invention there is a  
17  service type identifier which gives the network a way of  
18  labeling the packets so that we can say what kind of  
19  data they have in them so that the network can then  
20  treat the different kinds of data differently in an  
21  appropriate manner.

22          Q.    So how many patents is Ericsson asserting in  
23  this case that relate to these concepts that you've  
24  discussed?

25          A.    In total, there are five patents-in-suit.



1 Q. And have you analyzed all five patents, and  
2 are you prepared to offer opinions on them?

3 A. Yes, sir, I am.

4 Q. Let's now shift gears and talk about the  
5 Defendants and their products. And we have a -- I think  
6 we're going to be using this through your testimony as  
7 our menu or our table of contents.

8 A. Yes, sir.

9 Q. Something I created.  
10 So let's talk about the Defendants.  
11 Have you analyzed the Defendants' products for  
12 purposes of determining whether they infringe?

13 A. Yes, sir, I have.

14 Q. How many different types of products are made  
15 by the Defendants?

16 A. There are two main kinds. There are routers,  
17 and then there are computers, both desktops and laptops.

18 Q. Let's talk about the individual Defendants.  
19 Are these the Defendants that make the  
20 routers?

21 A. Yes, sir. Belkin, D-Link, and NETGEAR make  
22 routers.

23 Q. And which Defendants make personal computers?

24 A. Acer, Dell, and Toshiba.

25 Q. And is it just laptops at issue here, or is it

1 also desktop computers?

2 A. It's also desktops.

3 Q. Are all the devices, the laptops, desktops,  
4 routers, that you analyzed 802.11n compliant?

5 A. Yes, sir, they are.

6 Q. And do your opinions in this case extend to  
7 all the 802.11n routers, computers of the Defendants?

8 A. In general, I think there's one opinion that  
9 has to do just with the routers.

10 Q. Okay. Now, what products does Intel make?

11 A. They don't make any of the products that you  
12 actually buy and use, but they make the chips that go  
13 inside of those products.

14 Q. Is Intel the only manufacturer of chips for  
15 these devices in this case?

16 A. Oh, no, sir, not at all.

17 Q. So who are some other companies whose chipsets  
18 may be found in the accused products?

19 A. Broadcom; Atheros, which sometimes has been  
20 referred to as Qualcomm; Realtek; and Ralink are the  
21 chip manufacturers that are involved in this case.

22 Q. So let's talk about these chips. If I was to  
23 tear open this router --

24 A. Yes, sir.

25 Q. -- take the cover off, would I be able to see

1 the chips?

2 A. Yes, sir, you should be able to.

3 Q. And is it one manufacturer per device,

4 typically, or might you have an Atheros and a Broadcom

5 and an Intel in the same device?

6 A. Typically, it would be one manufacturer per  
7 device.

8 Q. Can all the devices we've talked about, the  
9 routers and the access points and the computers, be used  
10 together interoperably?

11 A. Yes, sir. I mean, that's really the point of  
12 having a standard, is so that everything can  
13 interoperate, and you can buy different manufacturers'  
14 devices and have them work together.

15 Q. Okay. All the devices in this case advertise  
16 as being and practicing the 802.11n standard?

17 A. Yes, sir, they are.

18 Q. And are these devices certified as Wi-Fi  
19 compliant?

20 A. Yes, sir, they are. Just to be clear, not  
21 every single device is certified, but a great many of  
22 them are certified.

23 Q. Okay. And I want to talk with you a little  
24 bit more about that in a second.

25 A. Yes, sir.

1 Q. Let's turn now to the 802.11n standards.

2 A. Okay.

3 Q. First, I want to understand the numbering  
4 convention a little better. Why couldn't they call it  
5 something simpler than 802.11?

6 A. Well, you'd have to ask the IEEE for a  
7 definitive answer, but 802 actually refers to a whole  
8 group of standards that all involve something called  
9 Ethernet, and 802.11 is called wireless Ethernet.

10 Q. Let me ask you -- stop you there.

11 So there's -- so a standard related to -- you  
12 called it Ethernet. That's some other data standards,  
13 right?

14 A. Well, all the ones that say 802 dot are -- all  
15 have to do with Ethernet in various forms.

16 Q. And that -- so there's -- there's other  
17 numbers, dot numbers?

18 A. Yes, sir.

19 Q. Okay. We're -- we're talking about dot 11.

20 A. That's right.

21 Q. Is that a specific flavor or a subset of all  
22 the other 802 data standards?

23 A. Yes, sir. That's -- that's wireless Ethernet,  
24 and the marketing term for that is Wi-Fi.

25 Q. And who is responsible for the 802.11

1 standard?

2 A. The IEEE.

3 Q. And tell us what the IEEE is.

4 A. Well, the IEEE is a professional organization  
5 of electrical engineers and electronics engineers  
6 that -- actually, they cover all sorts of areas of  
7 technology, but in particular, they create standards in  
8 this particular area of computer networking and wireless  
9 computer networking.

10 Q. How many -- how many members are there in the  
11 IEEE?

12 A. There are over 400,000. They claim to be the  
13 largest professional organization in the world.

14 Q. Are you a member?

15 A. Yes, sir.

16 Q. Now, 802.11n is the flavor or type of 802.11  
17 we're talking about in this case. Can you explain to us  
18 how that last letter -- what that represents, the "n"?

19 A. Originally, there was 802.11 without any  
20 letters, and that evolved into 802.11d. And then that  
21 actually also evolved into 802.11a. I don't know why  
22 they didn't keep things in order. Then there was  
23 802.11g. Now there's 802.11n.

24 And then there are other letters, which they  
25 don't really -- they're not whole networks. They don't

1 work independently. But I think we heard about 802.11e  
2 earlier today.

3 So there are other letters which are sort  
4 of -- sort of add-ons to the letters that I just  
5 mentioned.

6 Q. And in general, as the letters go on, are  
7 we -- is that going along in time?

8 A. Yes, sir. As technology advances, we add to  
9 the standard, we improve the standard, and we give it a  
10 new name.

11 Q. And how does 802.11n compare to the prior  
12 versions of standard before it?

13 A. Well, the most important difference to you and  
14 me is that it's a lot faster.

15 Q. Does it have a longer range, too?

16 A. Yes, sir, it does.

17 Q. So you could basically put your router further  
18 away in your house and still get signal than you could  
19 previously with the other versions?

20 A. Yes, sir, that's correct.

21 Q. And when you say faster, what does faster mean  
22 just from the user experience?

23 A. Well, 802.11 might not be able to even support  
24 voice; certainly not video. Faster means that we can  
25 have video -- maybe we can stream video, which is

1 hi-def. Maybe it's 60 frames per minute. Basically,  
2 faster means more bandwidth in this context, a better --  
3 and therefore, a better user experience.

4 Q. When was 802.11n officially approved?

5 A. In 2009.

6 Q. And are the Ericsson patents at issue here  
7 essential to the 802.11 standard?

8 A. Yes, sir, they are.

9 Q. Let's now turn to how you conducted your  
10 infringement analysis in this case.

11 What was your first step?

12 A. My first step was -- I guess the obvious  
13 one -- to read the patents. And eventually what you  
14 need to do is, you need to read the patents, and in  
15 particular, you need to read the claims of the patents.

16 And each one of the claims -- and we're going  
17 to talk about this a lot -- has a series of sentences or  
18 paragraphs that are called limitations. We'll call them  
19 elements sometimes.

20 And to infringe the patent, you have to meet  
21 each one of these limitations. And so that's one of the  
22 next steps. Once you read the patent, you start  
23 thinking about whether or not the accused products meet  
24 each of these limitations.

25 There's another important part, which is that

1 certain terms that are in the patent are defined by the  
2 Court, and it's important that you apply those terms  
3 when you're trying to understand what these claim  
4 limitations mean.

5 Q. And so I'm going to give everybody a preview  
6 of the future to come, and is this something you used in  
7 your work?

8 A. Yes, sir. That's Claim 1 of the '215  
9 patent -- well, actually, Claim 1 and 2 of the '215  
10 patent.

11 Q. So what we're going to be doing, I think, over  
12 the remainder of your examination is talking with you  
13 about the evidence and walking the jury through each one  
14 of the claim elements.

15 A. That's exactly correct.

16 Q. And the boxes are there to check them off as  
17 we do the --

18 A. That's right, because we want to make sure  
19 that we meet every one of the limitations, and we want  
20 to make sure we explain to the jury carefully why each  
21 one is met. Because, otherwise, if -- if not each one  
22 of them is met, there's no infringement.

23 Q. Okay. And in determining whether there's  
24 infringement of a patent, do you need proof the  
25 Defendants copied it?



1       A.    No, sir.  There's no requirement of copying at  
2 all.

3       Q.    Or stole anything?

4       A.    No, sir.  There's no -- no -- no stealing is  
5 required.  I have never been in a patent case, I don't  
6 think, where stealing was even accused -- was suggested.

7       Q.    So at the rock bottom, what is it that  
8 determines infringement?

9       A.    Does the system either do or is it a machine  
10 that does the individual limitations of a single claim.

11       Q.    Okay.  Approximately how many hours did you  
12 spend analyzing the standard and the evidence and the  
13 claims in this case?

14       A.    For infringement, around 500 hours is a good  
15 estimate.

16       Q.    Okay.  What was your primary source of proof  
17 about how the -- about the infringement analysis for  
18 what you compared to the claims?

19       A.    Well, in this case, we have the fact that the  
20 Defendants all practice the 802.11 standard.  And we  
21 have the standard, and the standard is very detailed  
22 about how it works.

23               And so for this case, my most -- I wouldn't  
24 say important, but the first place I looked for for  
25 proof is the standard.

1 Q. And that's my question. Is the standard  
2 written in sufficient detail that you could read it and  
3 apply it to the claims for your infringement analysis?

4 A. For almost all of the limitations, yes, sir.

5 Q. In addition to looking at the standard, did  
6 you do a specific product analysis for the individual  
7 Defendants?

8 A. Yes, sir, I did.

9 As part of the discovery process, I was given  
10 access to the Defendants' technical documents, and also,  
11 we've seen some depositions today; also, the depositions  
12 that have been taken in this case.

13 And so in essentially every patent case,  
14 that's one of the important sources of evidence:  
15 Technical documentation and deposition testimony of --  
16 from the parties. And so I looked at both of those  
17 kinds of evidence.

18 Q. Now, did you also look at any information from  
19 organizations that do compliance testing for Wi-Fi?

20 A. Yes, I did. There's a group called the Wi-Fi  
21 Alliance that tests to see -- it tests for just  
22 interoperability issues.

23 So it actually takes different Wi-Fi products  
24 and tests to see if they work together.

25 Q. Can you tell us what the Wi-Fi Alliance does?

1           A.    Well, it -- it takes -- takes Wi-Fi products  
2   and -- and tests to see if they -- if -- if they work  
3   together, and it tests specific -- specific aspects of  
4   those products.

5                    So, for example, there's a whole set of tests  
6   called WMM that had to do with quality of service.

7           Q.    Does the Wi-Fi Alliance test for compliance of  
8   products with the 802.11n standard?

9           A.    I think it's more correct to say that they --  
10   that they test for interoperability.  But  
11   interoperability is very strong evidence that they  
12   comply with the standard.  Because if they don't comply  
13   with the standard, there's no way they can -- they can  
14   work together.

15          Q.    All right.  And does the Wi-Fi alliance issue  
16   a certificate at the conclusion of the testing?

17          A.    Yes, sir, they do.

18                   MR. STEVENSON:  And I believe we have one  
19   that we've uploaded, and it hasn't been objected to,  
20   into evidence, PX 549.  May we see that, please?

21          Q.    (By Mr. Stevenson) Is this one of the  
22   interoperability testing certificates?

23          A.    Yes, sir.  This tells us that it's been tested  
24   for a, b, g, n, also for WMM, and also some optional  
25   capabilities, as well.

1 Q. And have you looked at a number of these in  
2 this case?

3 A. Yes, sir. I looked at tens or hundreds.

4 MR. STEVENS: And I have a list of ones  
5 we've put into evidence just as exemplars of these.

6 They are PX 103 through 117, PX 121, PX  
7 130, PX 136 to 142, PX 156 to 162, and PX 548 through  
8 549, if the jury would later like to see them.

9 Q. (By Mr. Stevens) Have you seen evidence that  
10 the Defendants in this case have participated in Wi-Fi  
11 certification?

12 A. Well, yes, sir. The products that are being  
13 certified are from the Defendants -- I mean, not all --  
14 I mean, there are other products, too, but the  
15 Defendants -- the ones that you just mentioned are going  
16 to be the Defendants' products.

17 Q. And as part of doing your report and your  
18 analysis, have you seen deposition testimony from  
19 representatives of the Defendants where they talk about  
20 interoperability testing?

21 A. Yes, sir.

22 Q. And I'd like to show you some of that just so  
23 we can have you look at what you reviewed in putting  
24 your report together.

25 A. Okay.

1 Q. And just, you know, read the -- read it and  
2 just explain to us what it means. I'll try to move fast  
3 because it may get a little redundant.

4 This is the Defendants -- the deposition of  
5 A. J. Wang. And it's -- although it was a video  
6 deposition, we also have a reported transcript, so just  
7 in the interest of time, I'm going to use that. It's  
8 from November 14th, 2002. I'm going to show you Page  
9 36. And I've highlighted a bit of it.

10 Would you go ahead and read that and tell us  
11 what it means?

12 A. Yes, sir. So this is a representative from  
13 D-Link, and he's explaining that the Wi-Fi Alliance  
14 takes their products and either the Wi-Fi Alliance  
15 itself tests them or it contracts with a lab to test  
16 them. And D-Link would submit a product to the Wi-Fi  
17 Alliance to test for compliance, and if the products  
18 passed these tests, then they'll become certified.

19 Q. Let me show you another part of this. It's  
20 from Page 119. Is D-Link saying that it generally sends  
21 all of its products to get certification from the Wi-Fi  
22 Alliance?

23 A. Yes, sir, that's exactly what D-Link is  
24 saying.

25 Q. Now, we also had a deposition of NETGEAR on

1 a -- on the same topic. This is the deposition of  
2 Bhavani Ganesan. I'm going to show you Page 63. Is  
3 this about the same question and answer about  
4 certification, the interoperability value?

5 A. Yes, sir. It's going into a little more  
6 detail about how the Wi-Fi Alliance operates, but it's  
7 saying the same basic idea.

8 Q. And frequently is it the chipsets that get  
9 interoperability tested?

10 A. Well, no, sir. The chipsets have to be in a  
11 product to really be able to be tested for  
12 interoperability.

13 Q. Okay.

14 A. So these are -- these are actually the -- in  
15 this case, these are the routers.

16 Q. All right. And does the Wi-Fi Alliance -- as  
17 he says, do you agree they come up with test plans and  
18 interoperability programs and the certification program?

19 A. Yes, sir, that's exactly what they did.

20 Q. And did the NETGEAR representative say most of  
21 their products go through that certification?

22 A. Yes, sir, that's exactly what he said.

23 Q. We'll turn next to Belkin, and this is the  
24 deposition from November 16th, 2012, of Li-Ter Mike  
25 Chen.

1           And was he asked about why do they include a  
2 Wi-Fi certification on the package of the product?

3           A.    Yes, sir.  He's explaining that it says that  
4 they're certified and, therefore, the product is  
5 interoperable.

6           Q.    Let's turn to some of the computer makers.  
7 The deposition of Toshiba was taken October 26th, 2012,  
8 and the representative was Masa Okumura.

9           A.    Yes, sir.

10          Q.    I believe that this witness was asked:  For  
11 all the products you sell in the U.S. with 802.11n  
12 functionality, do you make sure they're all certified by  
13 the Wi-Fi Alliance?  And what was the response to that?

14          A.    He said for the products that are sold today,  
15 that that's exactly what they do.

16          Q.    And that's driven by customer demand?

17          A.    Exactly.

18          Q.    Two more to go.  Let's look at Acer.  This is  
19 the November 6th, 2012, deposition of Yung-Sen Lin.

20                The question asked here is:  If Acer products  
21 specified 802.11n functionality, wouldn't Acer expect  
22 for its manufacturers to provide a chip that conforms  
23 with those standards?

24                And the witness said:  We'd require a solution  
25 that passes Wi-Fi Alliance testing.

1 A. Yes, sir, that's what he said.

2 Q. And then the witness gives a description  
3 similar to the other ones about Wi-Fi Alliance has a  
4 testing plan.

5 A. Exactly.

6 Q. And the last one is Dell. This is the October  
7 18, 2012, deposition of Scott Bamford. He mentions,  
8 doesn't he, that it's an important factor when Dell  
9 considers buying chipsets is -- that they're Wi-Fi  
10 Alliance certified.

11 A. Yes, sir. He's says he's got to have that.

12 Q. Then at the bottom of Page 37, he says:  
13 There's some requirements that 802.11 chipsets  
14 have to meet in order for Dell to even consider using  
15 them. And one of them is what?

16 A. One of them is that they have to be Wi-Fi  
17 Alliance certified.

18 Q. Now, in addition to looking at the Wi-Fi  
19 certification testing reports, did you perform testing  
20 of the individual chip components for each of the  
21 manufacturers in this case that are involved in selling  
22 802.11n chipsets?

23 A. Yes, sir, I did.

24 Q. Did you test chips from each manufacturer?

25 A. Yes, sir.



1 Q. And how many chips approximately did you test  
2 per manufacturer?

3 A. Between two and six.

4 Q. Did you use an engineering company to perform  
5 that work?

6 A. Yes, sir, I did.

7 Q. Were the chips tested in a controlled  
8 environment?

9 A. Yes, sir. That was an important aspect of the  
10 testing.

11 Q. And explain why control -- a controlled  
12 environment is an important aspect of the testing.

13 A. Well, I mean, I'm a scientist. That's just  
14 how you do experiments. You try to control the  
15 variables to the extent that you can, so that your  
16 answers aren't dependent on things that you haven't  
17 chosen to vary. And here what I wanted to vary was  
18 which chip I was testing, rather than the details of the  
19 computer system around that chip.

20 Q. And so how did you maintain a controlled  
21 environment?

22 A. Many of these chips can be bought in a form  
23 that allows you to plug them into something called a  
24 mini PCI slot, and so I equipped two desktop computers  
25 with an adapter that lets you plug these particular

1 kinds of chips into it.

2           It lets you change the Wi-Fi interface on your  
3 laptop. That's the reason the chip makers package them  
4 this way. And so then I was able to plug the individual  
5 chips into exactly the same kind of test arrangement for  
6 every chip and run the same tests.

7           Q. Did you do something to verify that the models  
8 of chips you were testing were representative across  
9 the -- that manufacturer?

10          A. Yes, sir. Besides testing multiple models for  
11 a manufacturer, I also had deposition testimony that  
12 said that they were representative and that they worked  
13 in the same manner. And I also looked at the source  
14 code for the systems.

15          Q. Okay. And tell us briefly what the source  
16 code is?

17          A. Source code is the language that human  
18 computer programmers write down to create the computer  
19 instructions that will be executed inside of these  
20 devices.

21                So source code is really what programmers  
22 write and read to implement the rule set. So the way  
23 that the rule set really gets into these products is  
24 through source code that's then processed to become the  
25 actual code inside the machines.

1 Q. Is the source code anything that we would  
2 likely be able, if we looked at it, to understand?

3 A. If you're a computer programmer.

4 Q. I'm going to take that as a no.

5 A. Sorry.

6 Q. You can read source code, I take it, right?

7 A. Yes, sir. I am a very experienced computer  
8 programmer.

9 Q. How long have you been reading source code and  
10 programming computers?

11 A. Well, let's see, I started doing it a few  
12 weeks before I turned 18. I'm 53 so, it's 35 years.

13 Q. And how many languages do you program in?

14 A. Over my lifetime, I have programmed in 35 or  
15 40 different computer languages.

16 Q. Is -- was the source code reviewed -- was  
17 there -- were there a lot of pages to that?

18 A. Oh, yes, sir. Tens of thousands maybe -- I  
19 mean, I didn't count them, but maybe even a hundred  
20 thousand or 200,000 pages.

21 Q. I mean, so obviously, that's a huge task. How  
22 did you organize your review?

23 A. Well, I had a group of computer scientists and  
24 programmers who helped me review the source code.

25 Q. And did they bring you portions for you to

1 analyze that might be relevant to different features?

2       A. Yes, sir. They would go and look at -- the  
3 source code itself is provided on locked-up machines.  
4 They had -- you have to go visit a certain spot and look  
5 at it, but they would -- they would print parts of the  
6 source code and I would look at it and, you know, they  
7 would go -- we would go back and forth about it.

8       Q. And one wrap-up before we move on to the first  
9 patent, and that is do you feel you had sufficient  
10 information and data upon which to form your opinions in  
11 this case?

12       A. Oh, yes, sir. I mean, I think that in this  
13 analysis, especially since I was able to start with the  
14 standard as the basis, I was able to double-check and  
15 even triple-check my conclusions.

16               THE COURT: All right. Mr. Stevenson,  
17 it's a little past 4:00. If you're at a stopping place,  
18 I think we'll quit for the day.

19               MR. STEVENSON: I am, Your Honor.

20               THE COURT: All right. Very well.

21               Let me ask before we recess, this morning  
22 Plaintiffs had an exhibit list. Would you like to get  
23 that taken care of before we adjourn?

24               MS. MOORE: I have for you an exhibit  
25 list titled: Plaintiffs' Pre-admitted Exhibit List for

1 June 4th, 2013. I believe we have given a copy to  
2 Defendants' counsel who has been able to look over it  
3 since lunch.

4 THE COURT: All right. That will be  
5 marked as Plaintiffs' Exhibit List No. 2.

6 Are there any objections to the exhibits  
7 listed on that list?

8 MR. DE VRIES: There are not, Your Honor.

9 THE COURT: All right. Those exhibits  
10 are admitted.

11 Do Defendants have any other exhibits to  
12 offer at this time?

13 MR. DE VRIES: We do not, Your Honor.

14 THE COURT: All right. Very well.

15 All right. Ladies and Gentleman of the  
16 Jury, thank you very much for your attention today.  
17 You've been a very attentive jury. You've been taking  
18 notes and paying attention, and I know both parties and  
19 the Court greatly appreciates that.

20 It's been a long day. You're not quite  
21 as bright-eyed as you were at 9 o'clock this morning,  
22 but that's understandable. So I hope you'll have a  
23 restful evening. Get a good night's sleep. Don't think  
24 about this case. Don't talk about it. Don't do any  
25 research and follow my instructions and we'll see you

1 back here at 9 o'clock in the morning.

2 The jury is excused.

3 COURT SECURITY OFFICER: All rise.

4 (Jury out.)

5 THE COURT: All right. Please be seated.

6 All right. Let me give the parties their  
7 time.

8 The Plaintiff has expended 4 hours and 35  
9 minutes, and Defendants have expended 2 hours and 5  
10 minutes.

11 Are there any other matters from the  
12 Plaintiff before we adjourn?

13 MR. CAWLEY: No, Your Honor.

14 THE COURT: From the Defendants?

15 MR. VAN NEST: Your Honor, I just have  
16 one question. We're looking forward to the start of our  
17 case and trying to plan for witnesses. Is it Your  
18 Honor's intention to be off on Friday?

19 THE COURT: Yes, uh-huh.

20 MR. VAN NEST: So we will not be putting  
21 any testimony on on Friday?

22 THE COURT: That's correct.

23 MR. VAN NEST: Thank you, Your Honor.

24 THE COURT: Okay. All right. Unless  
25 anybody wants to work on Friday.

1 MR. VAN NEST: I'll be working.

2 THE COURT: No. I think we'll do that.

3 We've done that the last few cases, and I think the  
4 feedback I've gotten from the attorneys, they appreciate  
5 a little abbreviated week. And I know the jury does.

6 And so we'll try that again this time.

7 All right. Very well. We'll be  
8 adjourned till tomorrow morning.

9 COURT SECURITY OFFICER: All rise.

10 (Court adjourned.)

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1 CERTIFICATION

2

3 I HEREBY CERTIFY that the foregoing is a  
4 true and correct transcript from the stenographic notes  
5 of the proceedings in the above-entitled matter to the  
6 best of our abilities.

7

8

9 /s/ Shea Sloan  
SHEA SLOAN, CSR  
10 Official Court Reporter  
State of Texas No.: 3081  
11 Expiration Date: 12/31/14

12

13

14 /s/ Judith Werlinger  
JUDITH WERLINGER, CSR  
15 Deputy Official Court Reporter  
State of Texas No.: 731  
16 Expiration Date 12/31/14

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